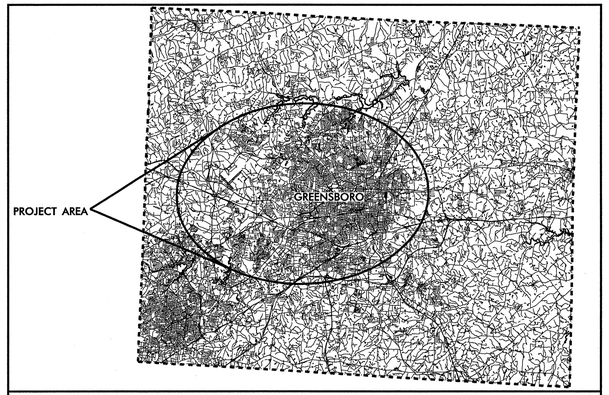
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4711	1	
39075.1.1		P.E.	
39075.3.1	CMS-0708(13)	CONST.	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

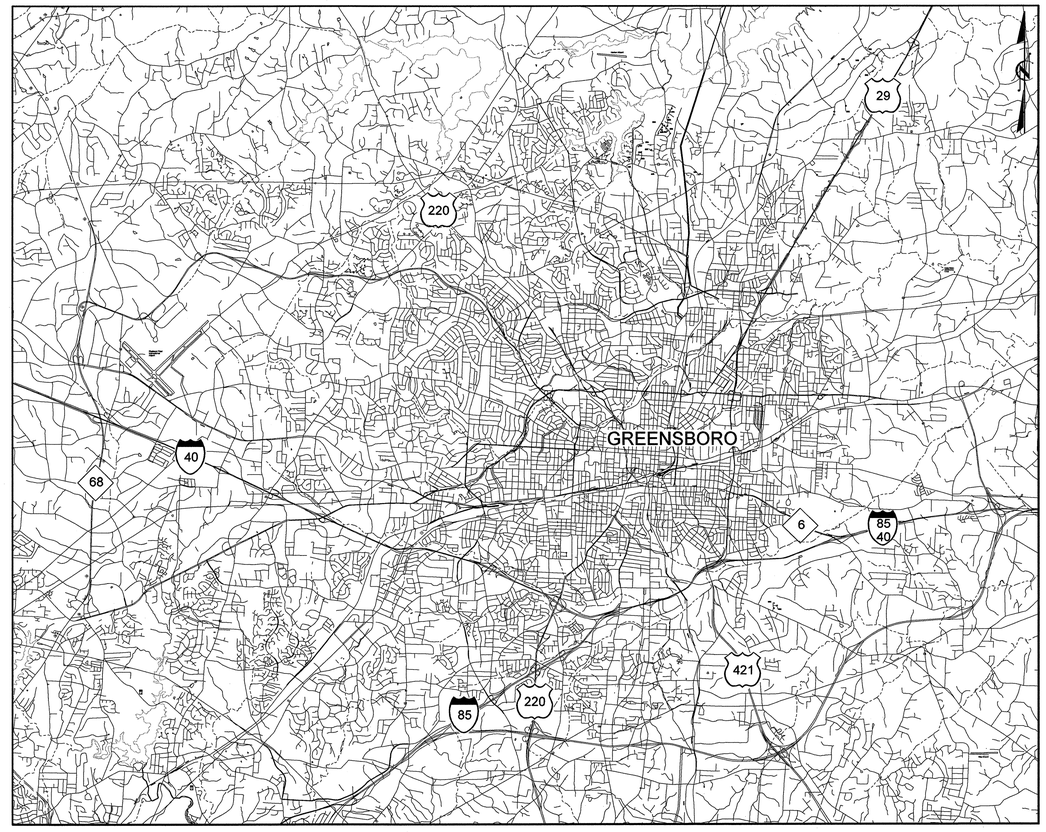
PLANS FOR PROPOSED IMPROVEMENTS

GREENSBORO

COMPUTERIZED TRAFFIC SIGNAL SYSTEM
DETAILS, QUANTITIES, AND COMMUNICATIONS CABLE
AND CONDUIT ROUTING PLANS



VICINITY MAP
NOT TO SCALE



FINAL PLANS

VOLUME 2 OF 5

TIP PROJECT: U-4711

CONTRACT: C201859

2/27/2008
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PROJECT REFERENCE NO.	SHEET NO.
U-4711	1A

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED IMPROVEMENTS

GREENSBORO

COMPUTERIZED TRAFFIC SIGNAL SYSTEM

COMMUNICATIONS CABLE AND CONDUIT ROUTING PLANS

LEGEND

FO	NEW FIBER OPTIC COMMUNICATIONS CABLE
EXI	EXISTING COMMUNICATIONS CABLE
FO LLI	NEW FIBER OPTIC COMMUNICATIONS CABLE AND LOOP LEAD-IN CABLE
LLI	NEW LOOP LEAD-IN CABLE
	NEW AERIAL GUY ASSEMBLY
	NEW CONDUIT
	EXISTING CONDUIT
DD	NEW DIRECTIONAL DRILLED CONDUIT
B&J	NEW BORED AND JACKED CONDUIT
	NEW JUNCTION BOX
	EXISTING JUNCTION BOX
MH	EXISTING MANHOLE
	NEW WOOD POLE
	EXISTING WOOD POLE
S	NEW SPLICE ENCLOSURE
S	EXISTING SPLICE ENCLOSURE
	NEW METAL POLE
	EXISTING METAL POLE
	EXISTING MAST ARM METAL POLE
	NEW CCTV CAMERA ASSEMBLY
	EXISTING CCTV CAMERA ASSEMBLY
	NEW STANDARD GUY ASSEMBLY
	NEW SIDEWALK GUY ASSEMBLY
	NEW CABLE STORAGE RACKS (SNOW SHOES)
	NEW WIRELESS TRANSCEIVER AND ANTENNA
	NEW BASE MOUNTED EQUIPMENT CABINET (CONTROLLER, CCTV OR COMMUNICATIONS HUB)
	EXISTING BASE MOUNTED EQUIPMENT CABINET (CONTROLLER OR CCTV)
	NEW POLE MOUNTED EQUIPMENT CABINET (CONTROLLER OR CCTV)
	EXISTING POLE MOUNTED EQUIPMENT CABINET (CONTROLLER OR CCTV)
S	EXISTING SPLICE CABINET
S	NEW SPLICE CABINET
	NEW MICROWAVE VEHICLE DETECTOR
	NEW SYSTEM DETECTOR
	EXISTING SYSTEM DETECTOR
	NEW WIRELESS ACCESS POINT
XX-XXXX	SIGNAL INVENTORY NUMBER
SP	SIGNAL POLE
M	NEW CITY MIS DEPARTMENT REQUESTED MATERIAL

INDEX OF SHEETS

SHEET NUMBER	DESCRIPTION
1	TITLE SHEET
1A	LEGEND, INDEX OF SHEETS, ROADWAY STANDARD DRAWINGS
1B	CONSTRUCTION NOTES
139-370	CABLE ROUTING SHEETS

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"- ROADWAY DESIGN UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NUMBER	DESCRIPTION
1700.01	ELECTRICAL SERVICE OPTIONS
1700.02	ELECTRICAL SERVICE GROUNDING
1715.01	UNDERGROUND CONDUIT - TRENCHING
1716.01	JUNCTION BOXES
1720.01	WOOD POLES
1721.01	GUY ASSEMBLIES
1725.01	INDUCTIVE DETECTION LOOPS
1730.01	FIBER OPTIC CABLE
1751.01	CONTROLLERS AND CABINETS
848.01	CONCRETE SIDEWALK

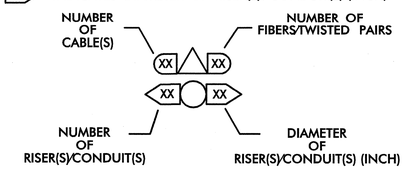
CONSTRUCTION NOTE SYMBOLOGY KEY

XX INDICATES NUMBER OF CABLES, LOOPS, ETC.

XX INDICATES NUMBER OF FIBERS PER CABLE, TWISTED PAIRS PER CABLE, ETC.

XX INDICATES NUMBER OF RISER(S)/CONDUIT(S)

XX INDICATES DIAMETER OF RISER(S)/CONDUIT(S) (INCH)



VOLUME 2 OF 5

PLANS PREPARED BY:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh, NC 27636
(919) 677-2000

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/28/08 DATE

CONTRACT: C201859

TIP PROJECT: U-4711

2/27/2008
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PROJECT REFERENCE NO.	SHEET NO.
U-4711	1B

- △1 INSTALL SMFO CABLE
- △2 INSTALL PLENUM RATED FIBER OPTIC CABLE
- △3 INSTALL FIBER OPTIC DROP CABLE
- △4 INSTALL TRACER WIRE
- △5 REUSE NCDOT SMFO CABLE
- △6 REUSE GDOT SMFO CABLE
- (1) TRENCH
- (2) INSTALL PVC CONDUIT
- (3) INSTALL RIGID, GALVANIZED STEEL CONDUIT
- (4) INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
- (5) INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
- (6) INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
- (7) INSTALL POLYETHYLENE CONDUIT
- (8) DIRECTIONAL DRILL CONDUIT
- (9) BORE AND JACK CONDUIT
- (10) INSTALL CABLE(S) IN EXISTING CONDUIT
- (11) INSTALL CABLE(S) IN NEW CONDUIT
- (12) INSTALL CABLE(S) IN EXISTING RISER
- (13) INSTALL CABLE(S) IN NEW RISER
- (14) INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
- (15) INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- (16) INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- (17) INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET
- (18) INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
- (19) REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
- ◇1 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
- ◇2 INSTALL UNDERGROUND SPLICE ENCLOSURE
- ◇3 INSTALL AERIAL SPLICE ENCLOSURE
- ◇4 INSTALL POLE MOUNTED SPLICE CABINET
- ◇5 INSTALL BASE MOUNTED SPLICE CABINET
- ◇6 REMOVE EXISTING SPLICE CABINET
- ◇7 INSTALL TERMINAL SPLICE BOX
- ◇8 MODIFY EXISTING SPLICE ENCLOSURE
- [1] INSTALL CABINET FOUNDATION
- [2] REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
- [3] MODIFY EXISTING CABINET FOUNDATION
- [4] INSTALL NEW 333 COMMUNICATION CABINET
- [5] INSTALL NEW 332 BASE MOUNTED CABINET
- [6] INSTALL NEW 336S CABINET
- [7] INSTALL CCTV CAMERA ASSEMBLY
- [8] INSTALL CCTV CAMERA WOOD POLE
- [9] INSTALL CCTV METAL POLE AND FOUNDATION
- [10] INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
- [11] INSTALL SPECIAL OVERSIZED JUNCTION BOX
- [12] INSTALL OVERSIZED JUNCTION BOX
- [13] INSTALL STANDARD JUNCTION BOX
- [14] REMOVE EXISTING JUNCTION BOX
- [15] INSTALL WOOD POLE
- [16] REMOVE EXISTING WOOD POLE
- [17] INSTALL AERIAL GUY ASSEMBLY
- [18] INSTALL STANDARD GUY ASSEMBLY
- [19] INSTALL SIDEWALK GUY ASSEMBLY
- [20] INSTALL MESSENGER CABLE
- [21] REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
- [22] REMOVE EXISTING COMMUNICATIONS CABLE
- [23] INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
- [24] INSTALL DELINEATOR MARKER
- [25] STORE 30 FEET OF EACH COMMUNICATIONS CABLE
- [26] STORE 100 FEET OF EACH COMMUNICATIONS CABLE
- [27] LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
- [28] LASH CABLE(S) TO EXISTING MESSENGER CABLE
- [29] LASH CABLE(S) TO NEW MESSENGER CABLE
- [30] INSTALL NEW ELECTRICAL SERVICE
- [31] MODIFY EXISTING ELECTRICAL SERVICE
- [32] INSTALL NEW CONTROLLER
- [33] INSTALL EXISTING CABLE IN NEW CABINET
- [34] INSTALL GENERATOR POWER INLET BOX
- [35] INSTALL LOCAL GIGABIT ETHERNET SWITCH
- [36] INSTALL UNIFIED CABLE
- [37] INSTALL POLE MOUNTED EQUIPMENT CABINET
- [38] INSTALL UNI-DIRECTIONAL YAGI ANTENNA
- [39] INSTALL OMNI-DIRECTIONAL ANTENNA
- [40] INSTALL RADIO TRANSCEIVER
- [41] INSTALL SYSTEM LOOP
- [42] INSTALL SYSTEM LOOP AMPLIFIER
- [43] INSTALL SYSTEM LOOP LEAD-IN CABLE
- [44] INSTALL LOCAL LOOP AMPLIFIER
- [45] INSTALL WIRELESS ACCESS POINT
- [46] INSTALL HUB 10 – GIGABIT ETHERNET SWITCH
- [47] INSTALL CODEC
- [48] BOND MESSENGER CABLE TO POLE GROUND
- [49] INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
- [50] INSTALL ANTENNA CABLE
- [51] RECONNECT RAILROAD PREEMPTION EQUIPMENT
- [52] RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
- [53] INSTALL DSL ETHERNET SWITCH
- [54] INSTALL ETHERNET CABLE
- [55] INSTALL TERMINAL SERVER
- [56] INSTALL MICROWAVE VEHICLE DETECTOR
- [57] INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
- [58] INSTALL WIRELESS ACCESS POINT POWER CABLE

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility & Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

0
NONE

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CONSTRUCTION NOTES

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

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2/20/2008
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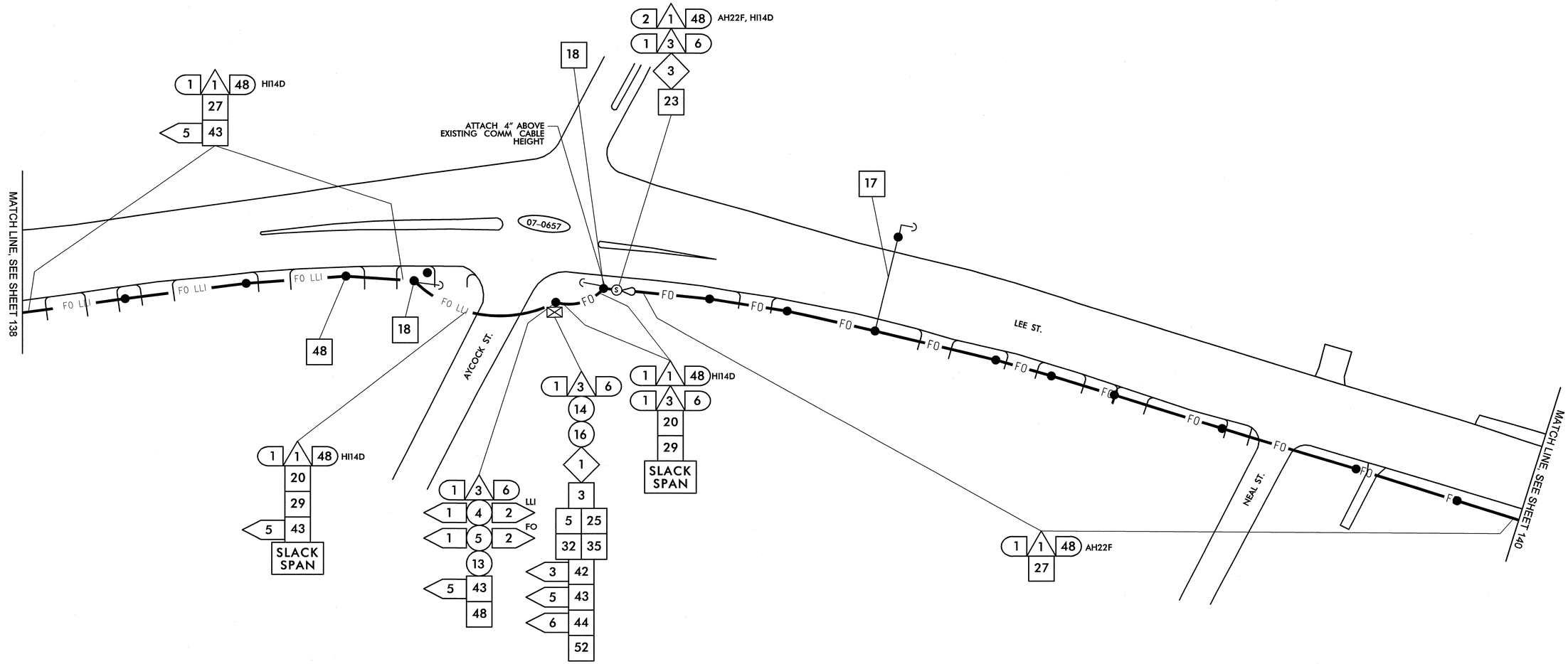
PROJECT REFERENCE NO.	SHEET NO.
U-4711	139



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET

6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
24	INSTALL DELINEATOR MARKER		
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Division of Highways
North Carolina Department of Transportation
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

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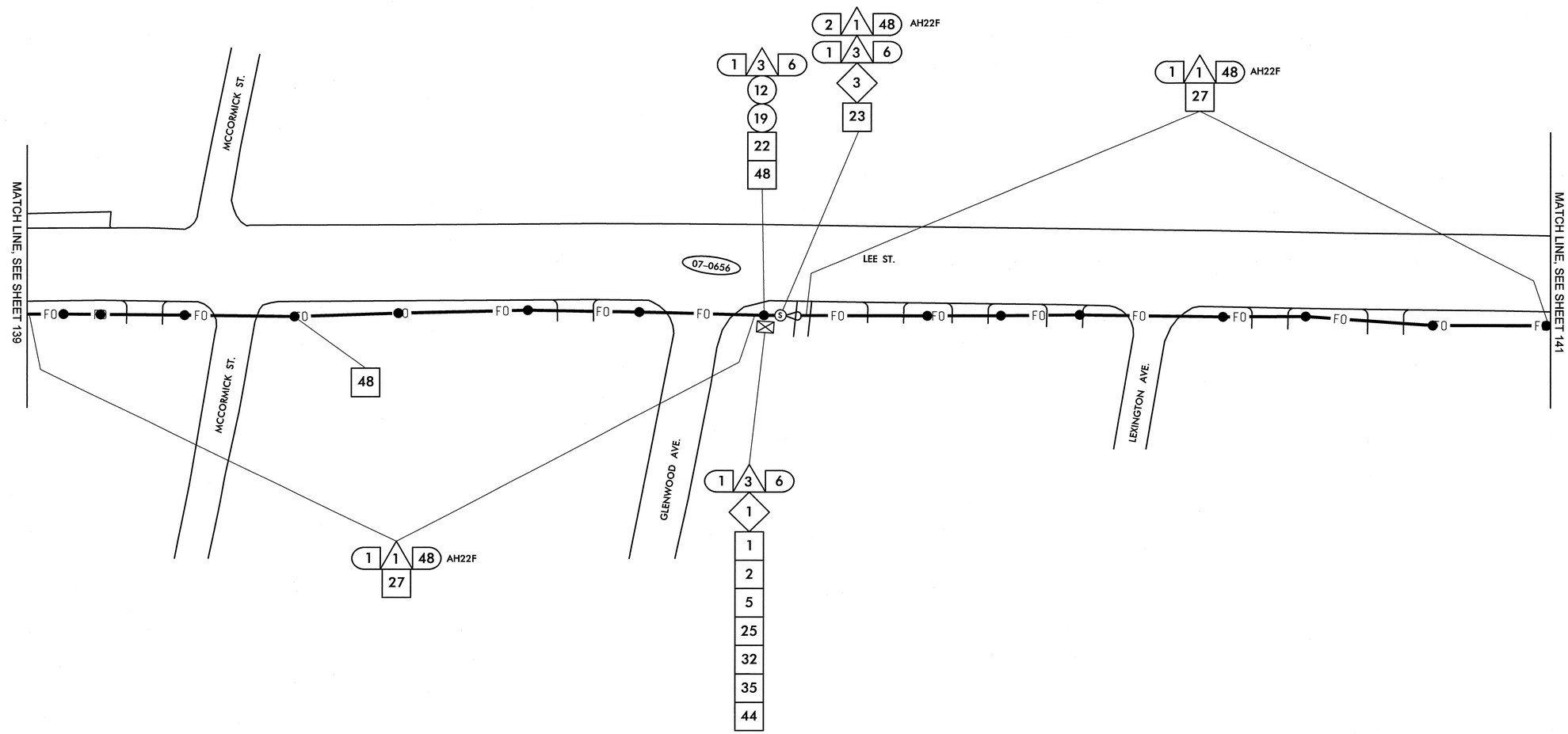
PROJECT REFERENCE NO.	SHEET NO.
U-4711	140



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
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4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
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2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

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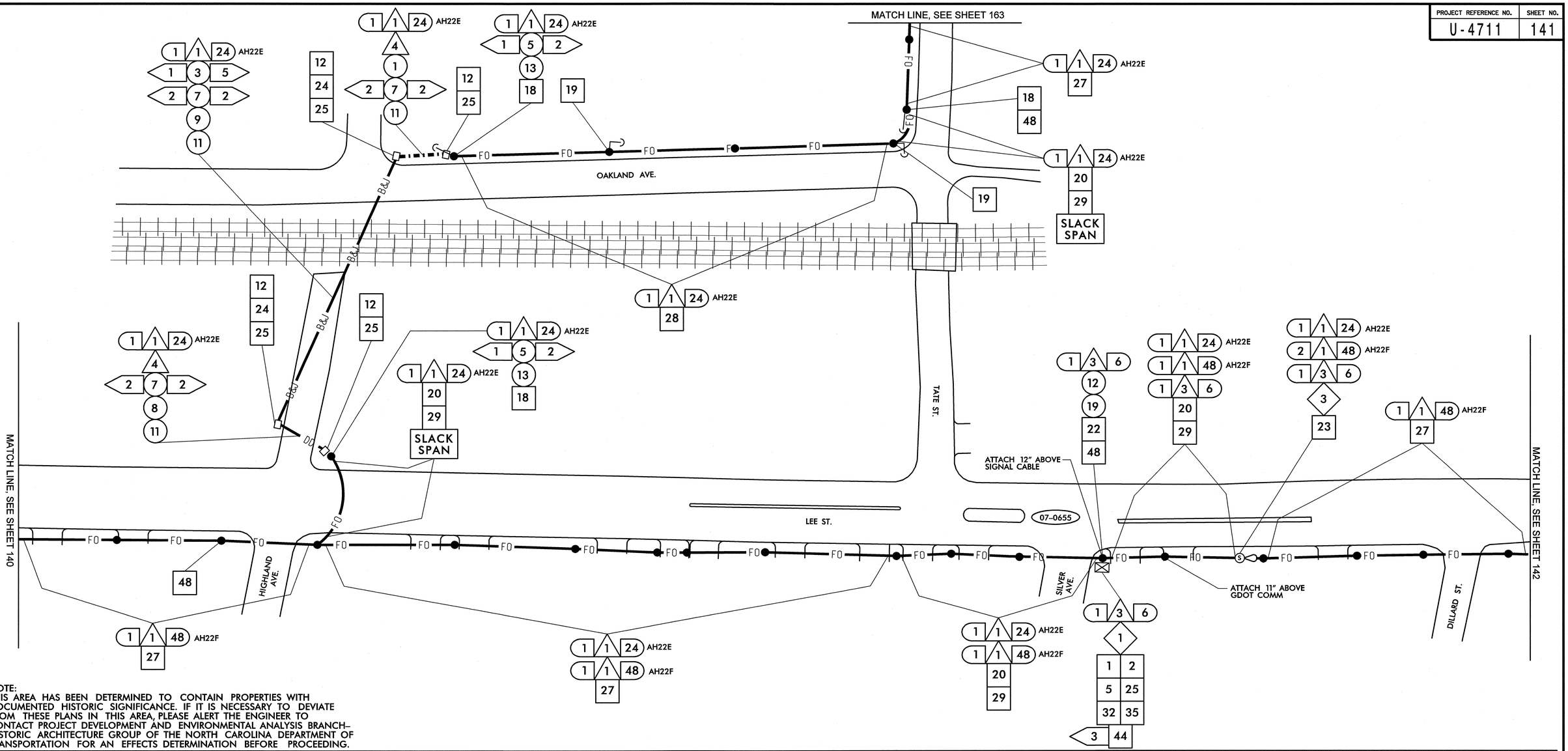
PROJECT REFERENCE NO.	SHEET NO.
U-4711	141



NOTE:
THIS AREA HAS BEEN DETERMINED TO CONTAIN PROPERTIES WITH DOCUMENTED HISTORIC SIGNIFICANCE. IF IT IS NECESSARY TO DEVIATE FROM THESE PLANS IN THIS AREA, PLEASE ALERT THE ENGINEER TO CONTACT PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH–HISTORIC ARCHITECTURE GROUP OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FOR AN EFFECTS DETERMINATION BEFORE PROCEEDING.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/29/08 DATE

CADD Filename: ...\Sht0141.dgn

2/29/2008
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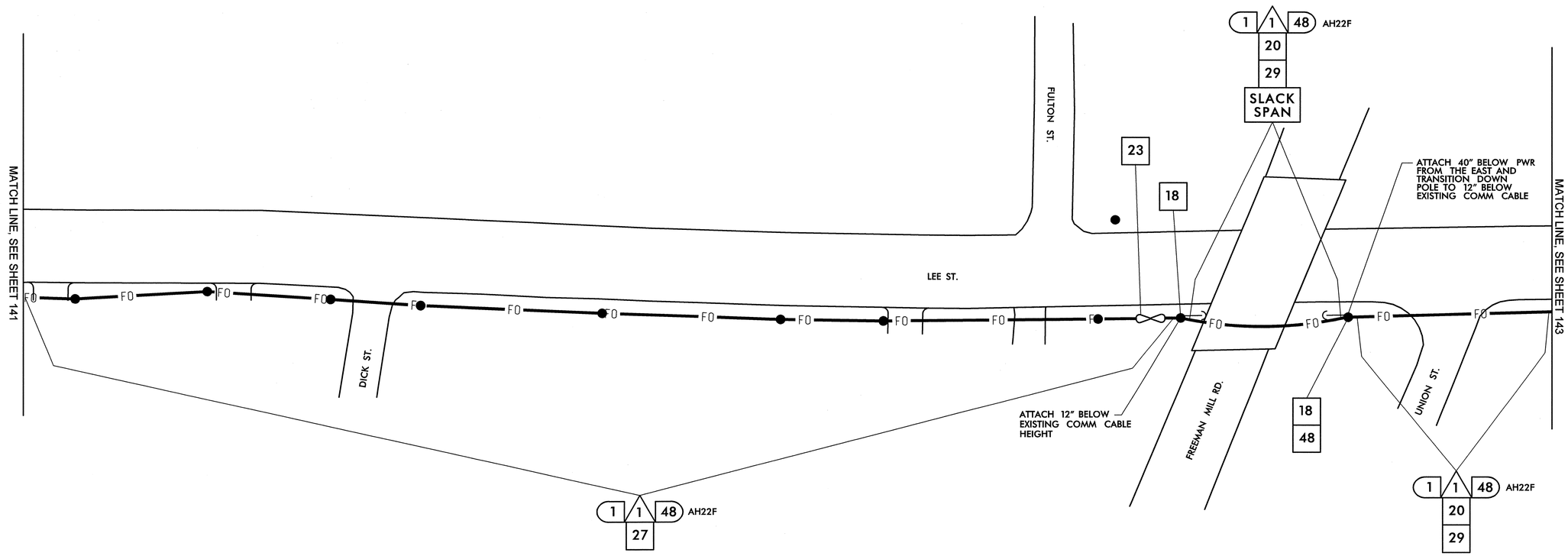
PROJECT REFERENCE NO.	SHEET NO.
U-4711	142



1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE

1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING

1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE

1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0142.dgn

2/20/2008
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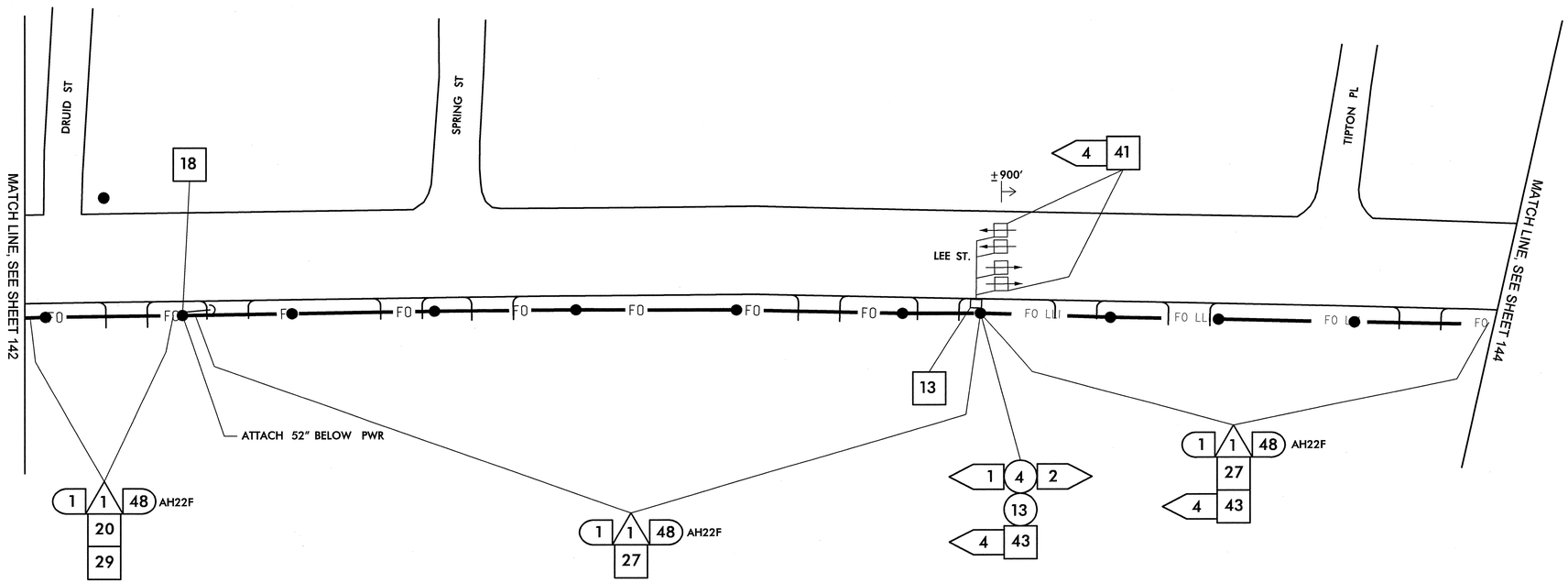

1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Division of Highways
North Carolina Department of Transportation
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008		REVIEWED BY: K.W. SMITH	
PREPARED BY: K.D. VANPATTEN		REVIEWED BY: M.W. DUNZO	
REVISIONS		INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0143.dgn

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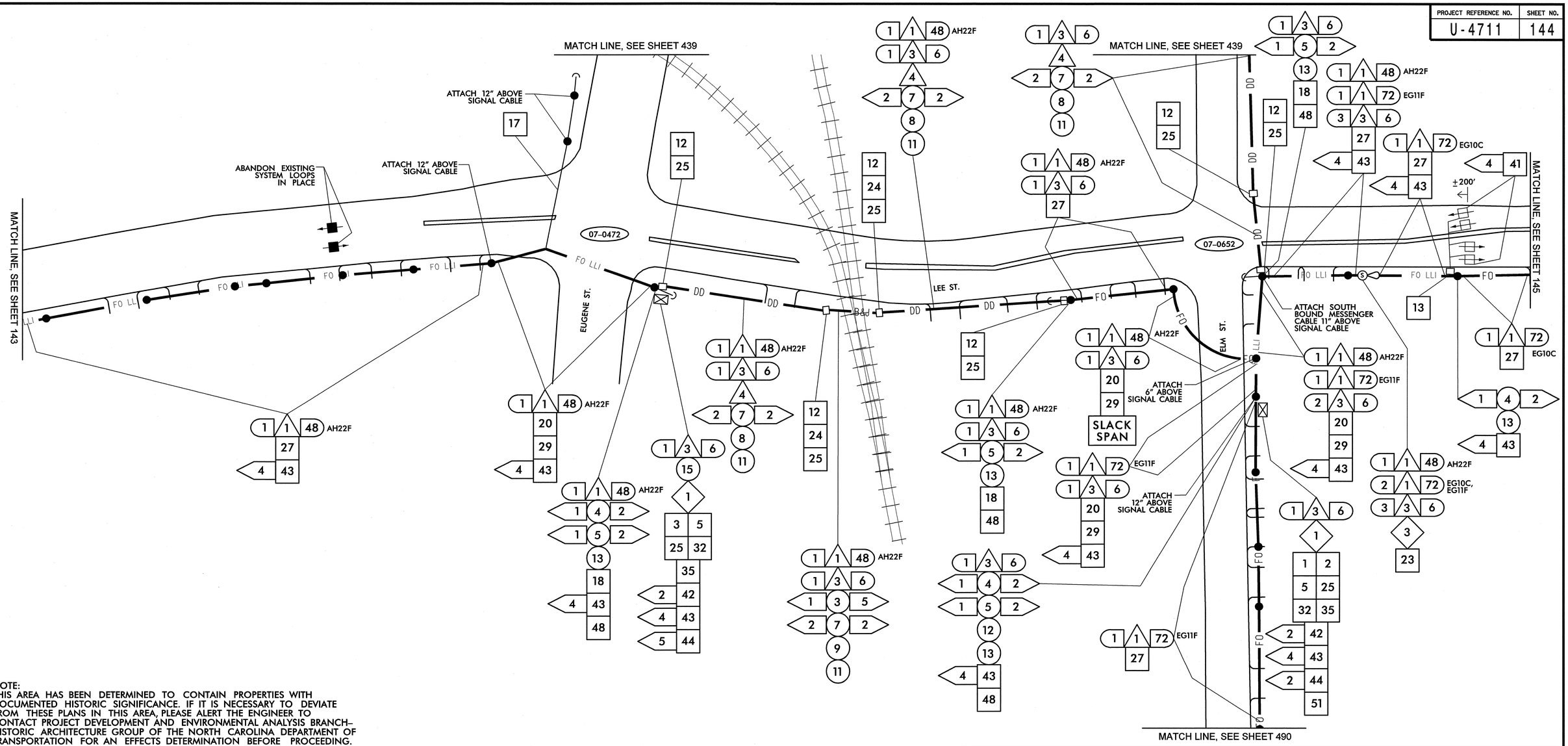
PROJECT REFERENCE NO.	SHEET NO.
U-4711	144



NOTE:
THIS AREA HAS BEEN DETERMINED TO CONTAIN PROPERTIES WITH DOCUMENTED HISTORIC SIGNIFICANCE. IF IT IS NECESSARY TO DEVIATE FROM THESE PLANS IN THIS AREA, PLEASE ALERT THE ENGINEER TO CONTACT PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH-HISTORIC ARCHITECTURE GROUP OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FOR AN EFFECTS DETERMINATION BEFORE PROCEEDING.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
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13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
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20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
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27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
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30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
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48. BOND MESSENGER CABLE TO POLE GROUND
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0144.dgn

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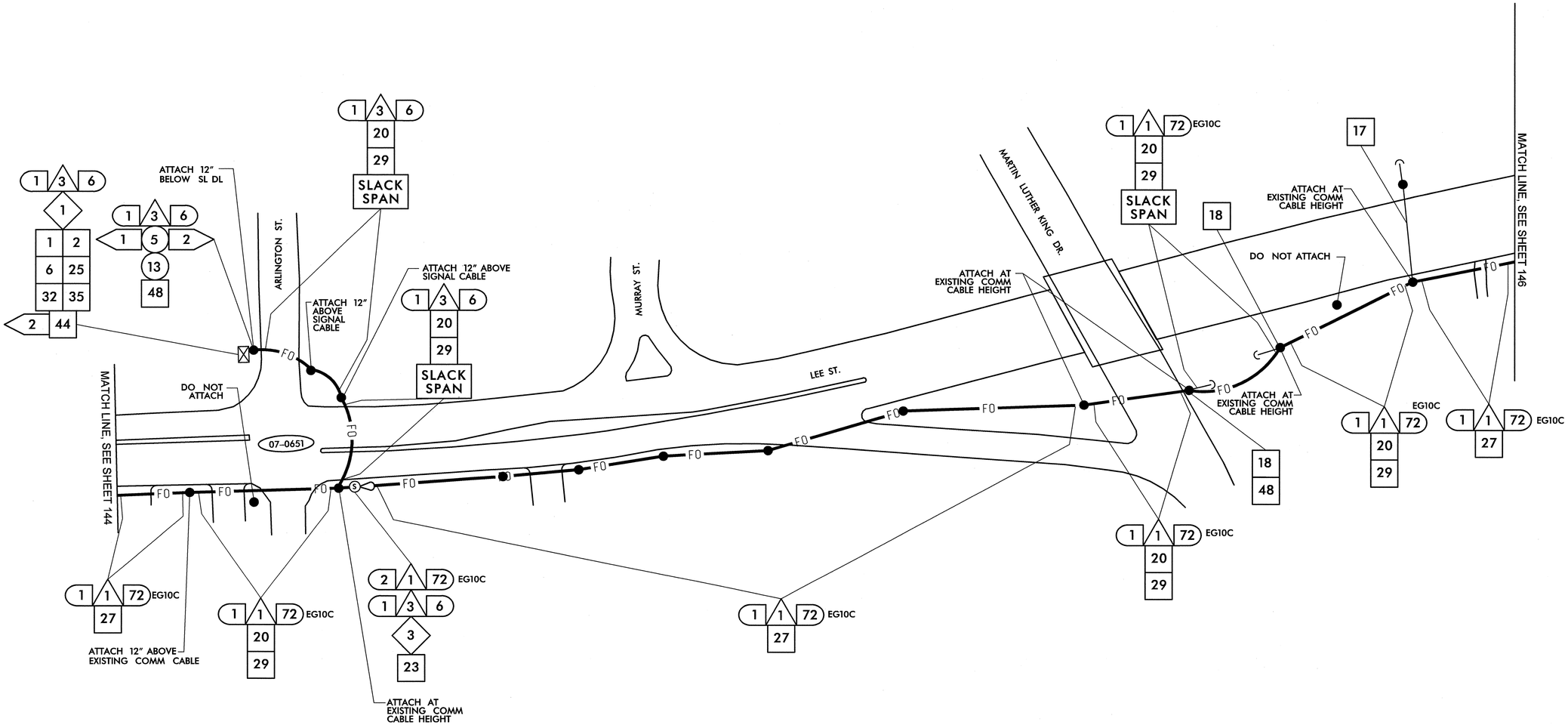
PROJECT REFERENCE NO.	SHEET NO.
U-4711	145



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1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE

1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING

1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE

1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
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15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
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30. INSTALL NEW ELECTRICAL SERVICE
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32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
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36. INSTALL UNIFIED CABLE
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51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
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58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0145.dgn

2/20/2008
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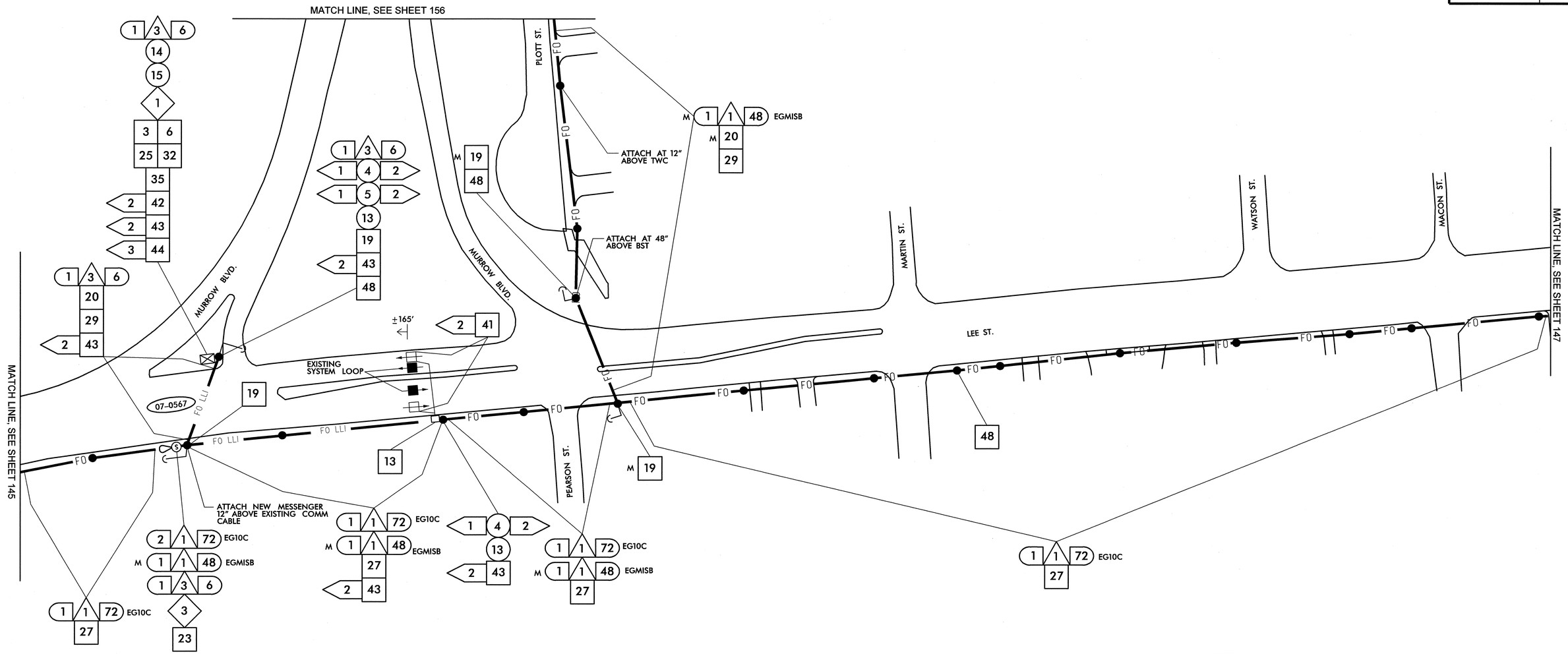
PROJECT REFERENCE NO.	SHEET NO.
U-4711	146



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8. MODIFY EXISTING SPLICE ENCLOSURE

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2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
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PLANS PREPARED IN THE OFFICE OF:
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(919) 677-2000

Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 3/4/08

CADD Filename: ...\Sht0146m.dgn

3/4/2008
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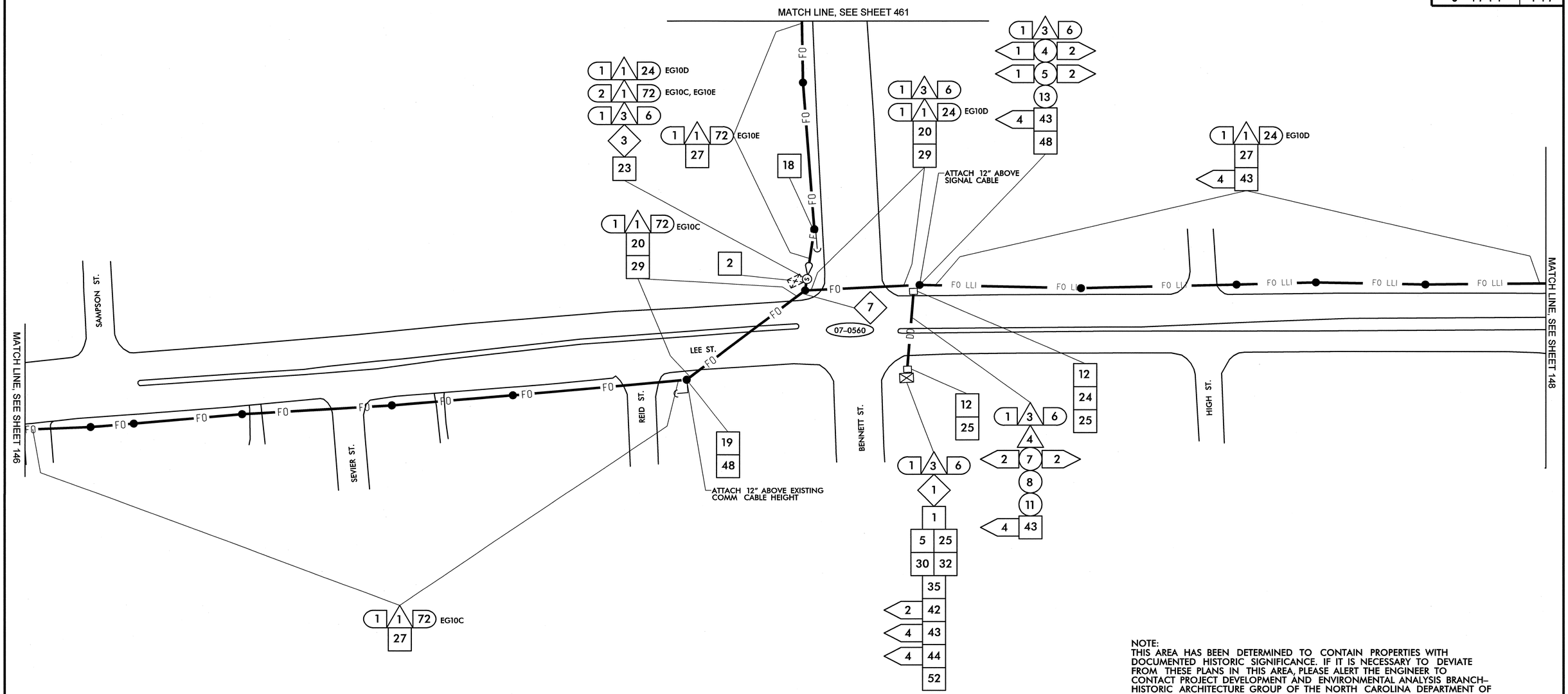
PROJECT REFERENCE NO.	SHEET NO.
U-4711	147



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6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
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7. INSTALL CCTV CAMERA ASSEMBLY
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58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE — DATE 2/20/08
CADD Filename: ...\Sht0147.dgn

2/20/2008
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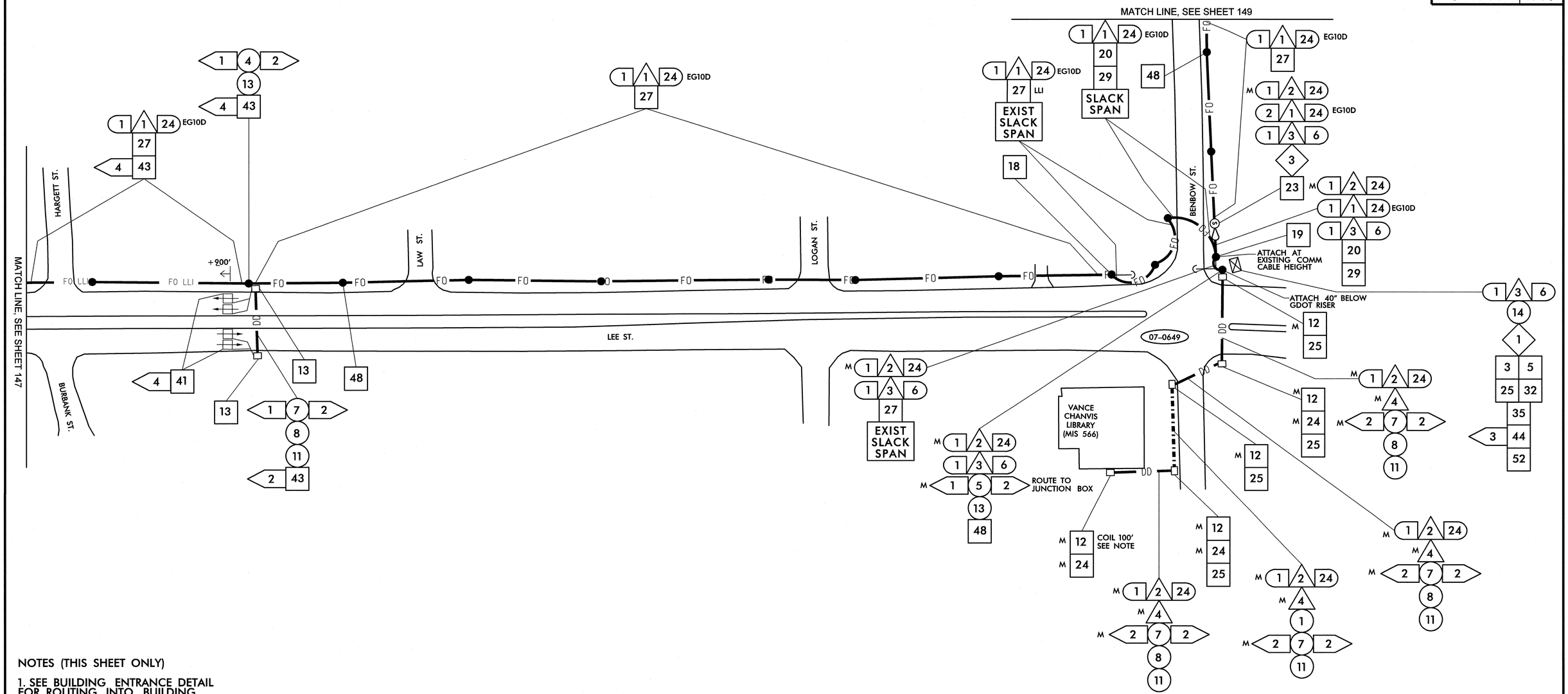
PROJECT REFERENCE NO.	SHEET NO.
U-4711	148



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

1	INSTALL SMFO CABLE
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CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/29/08 DATE

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2/29/2008
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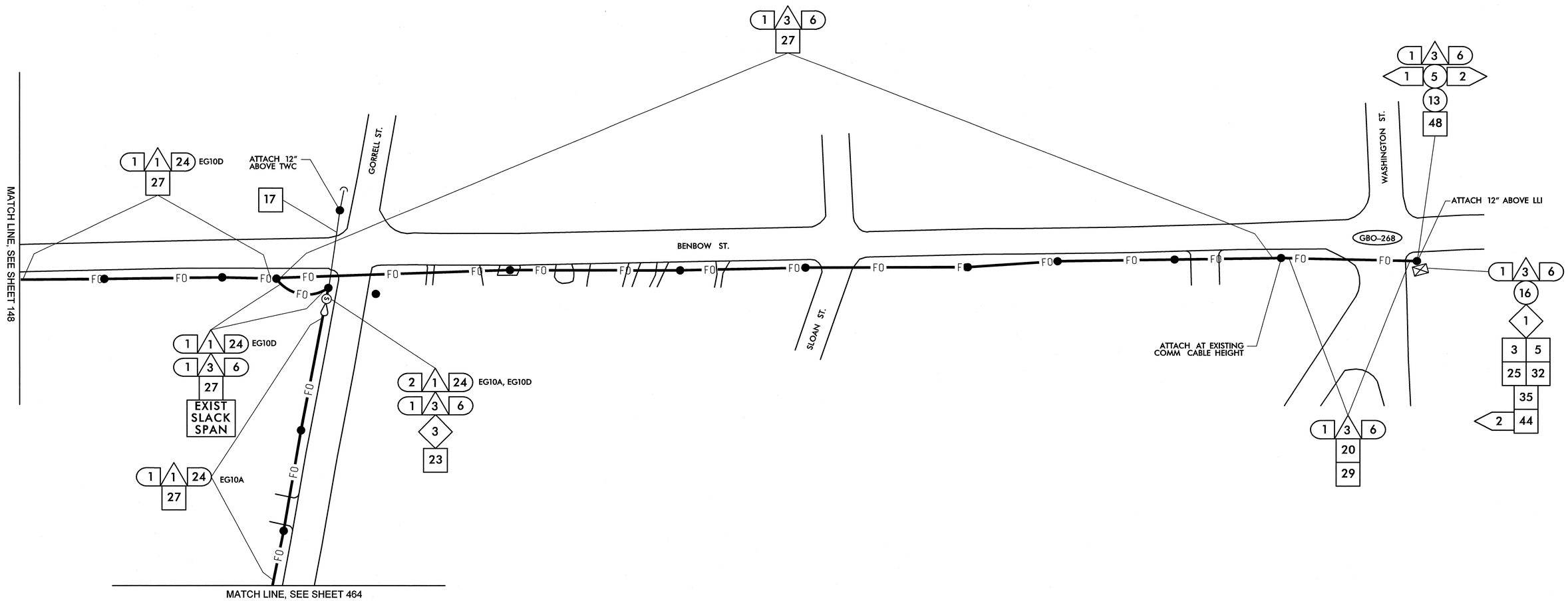
PROJECT REFERENCE NO.	SHEET NO.
U-4711	149



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE

26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
29	LASH CABLE(S) TO NEW MESSENGER CABLE	47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
30	INSTALL NEW ELECTRICAL SERVICE	48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
31	MODIFY EXISTING ELECTRICAL SERVICE	49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
32	INSTALL NEW CONTROLLER	50	INSTALL ANTENNA CABLE		
33	INSTALL EXISTING CABLE IN NEW CABINET	51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
34	INSTALL GENERATOR POWER INLET BOX	52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH				
36	INSTALL UNIFIED CABLE				
37	INSTALL POLE MOUNTED EQUIPMENT CABINET				
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA				
39	INSTALL OMNI-DIRECTIONAL ANTENNA				
40	INSTALL RADIO TRANSCEIVER				
41	INSTALL SYSTEM LOOP				
42	INSTALL SYSTEM LOOP AMPLIFIER				
43	INSTALL SYSTEM LOOP LEAD-IN CABLE				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

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PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

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SIGNATURE — DATE 2/20/08

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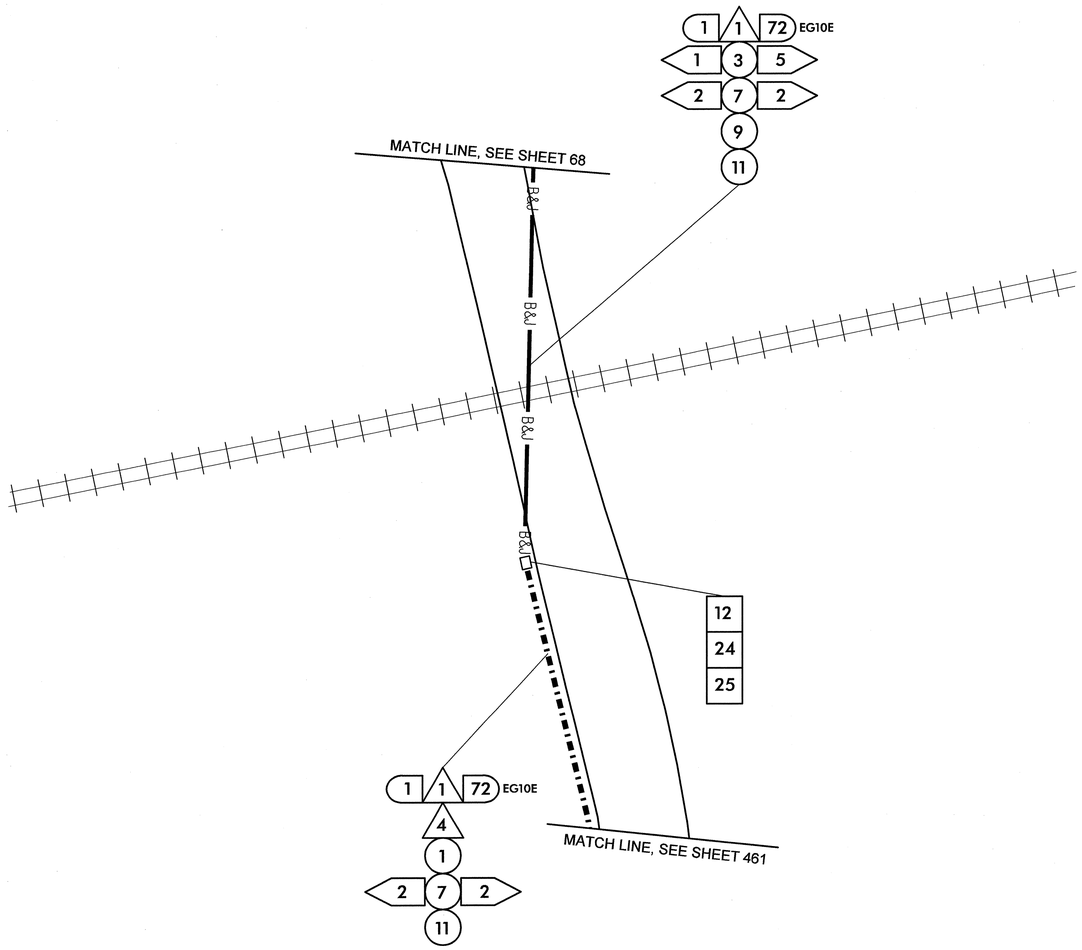
PROJECT REFERENCE NO.	SHEET NO.
U-4711	150



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
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37	INSTALL POLE MOUNTED EQUIPMENT CABINET
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40	INSTALL RADIO TRANSCEIVER
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42	INSTALL SYSTEM LOOP AMPLIFIER
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NOTE:
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

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PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

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SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

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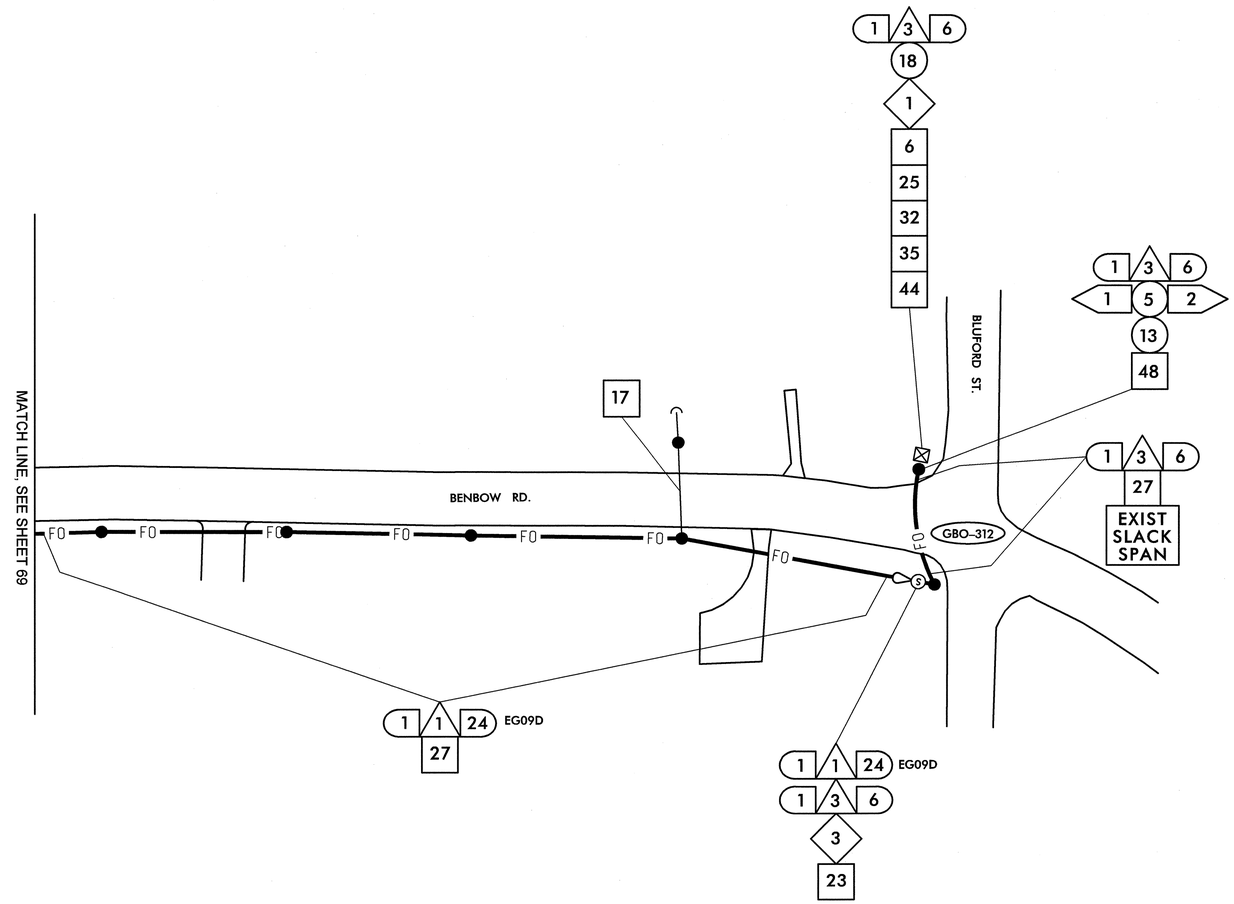
PROJECT REFERENCE NO.	SHEET NO.
U-4711	151



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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

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SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0151.dgn

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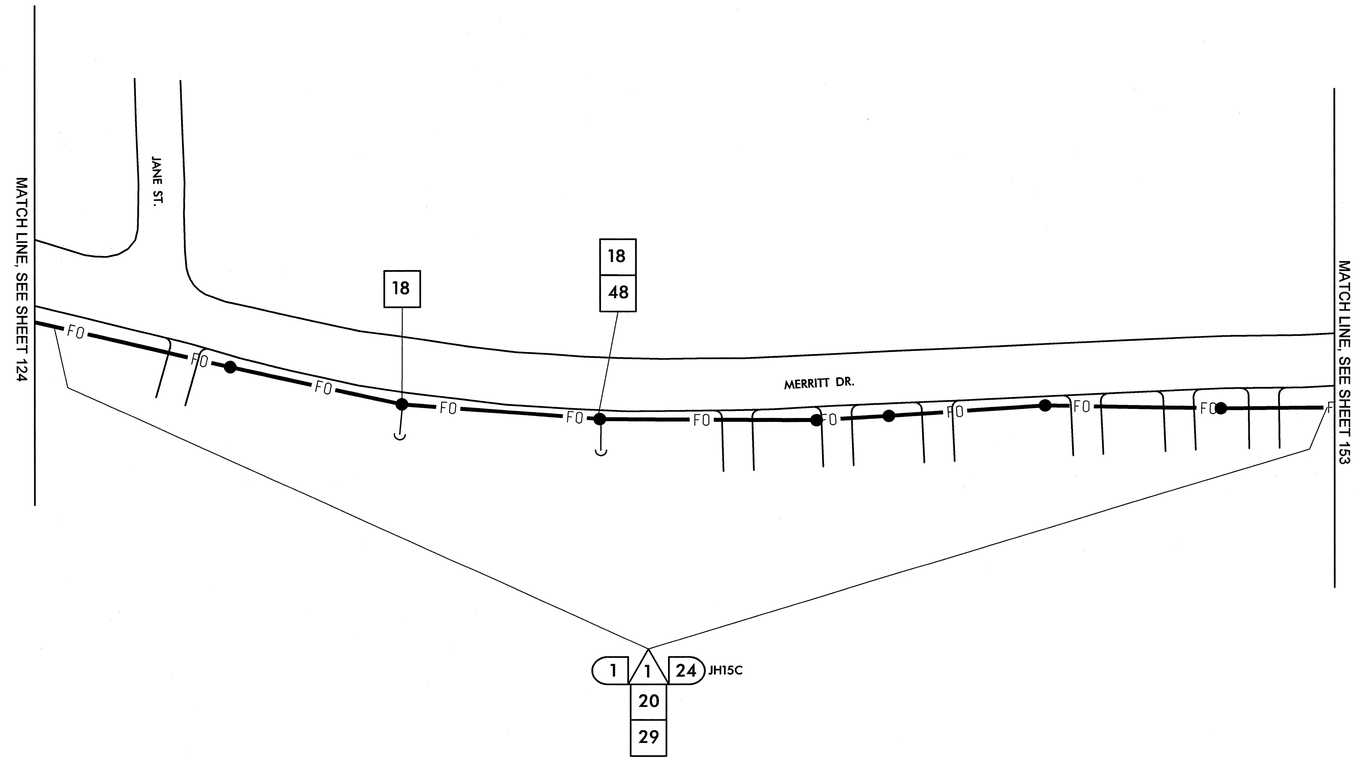
PROJECT REFERENCE NO.	SHEET NO.
U-4711	152



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
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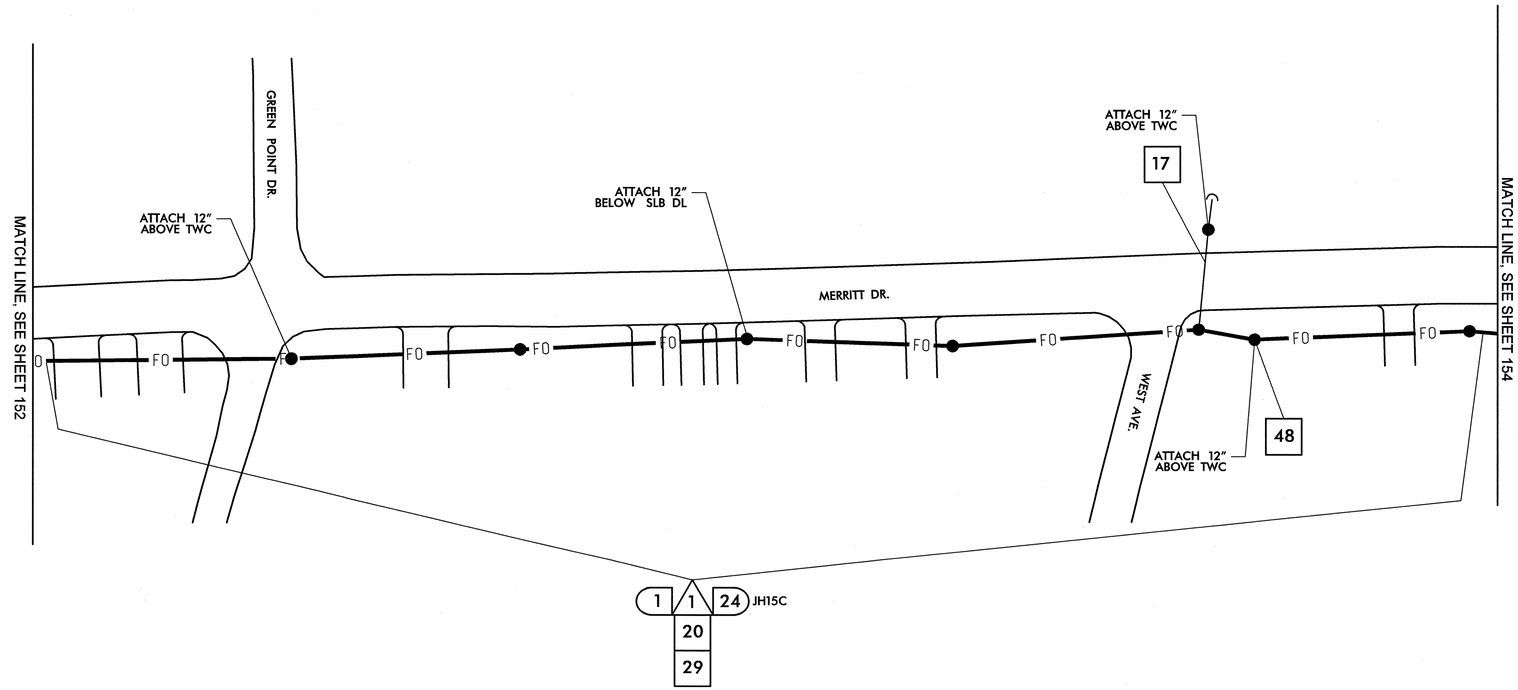
U-4711	153



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3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE

26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
29	LASH CABLE(S) TO NEW MESSENGER CABLE	47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
30	INSTALL NEW ELECTRICAL SERVICE	48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
31	MODIFY EXISTING ELECTRICAL SERVICE	49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
32	INSTALL NEW CONTROLLER	50	INSTALL ANTENNA CABLE		
33	INSTALL EXISTING CABLE IN NEW CABINET	51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
34	INSTALL GENERATOR POWER INLET BOX	52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH				
36	INSTALL UNIFIED CABLE				
37	INSTALL POLE MOUNTED EQUIPMENT CABINET				
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA				
39	INSTALL OMNI-DIRECTIONAL ANTENNA				
40	INSTALL RADIO TRANSCEIVER				
41	INSTALL SYSTEM LOOP				
42	INSTALL SYSTEM LOOP AMPLIFIER				
43	INSTALL SYSTEM LOOP LEAD-IN CABLE				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Institute of Transportation Research and Education
Transportation Systems
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filenames ...\Sht0153.dgn

2/20/2008
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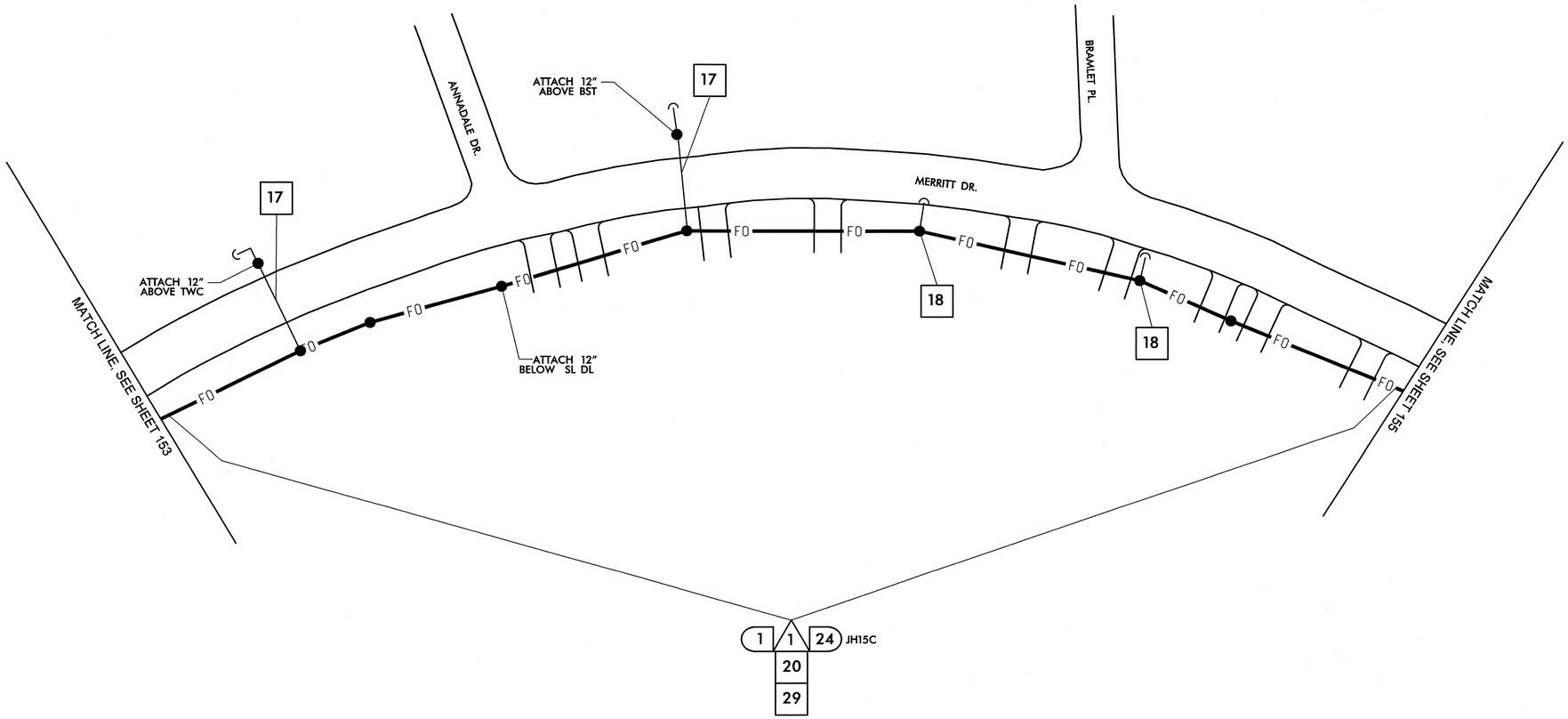
PROJECT REFERENCE NO.	SHEET NO.
U-4711	154



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008		REVIEWED BY: K.W. SMITH	
PREPARED BY: K.D. VANPATTEN		REVIEWED BY: M.W. DUNZO	
REVISIONS		INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0154.dgn

2/20/2008
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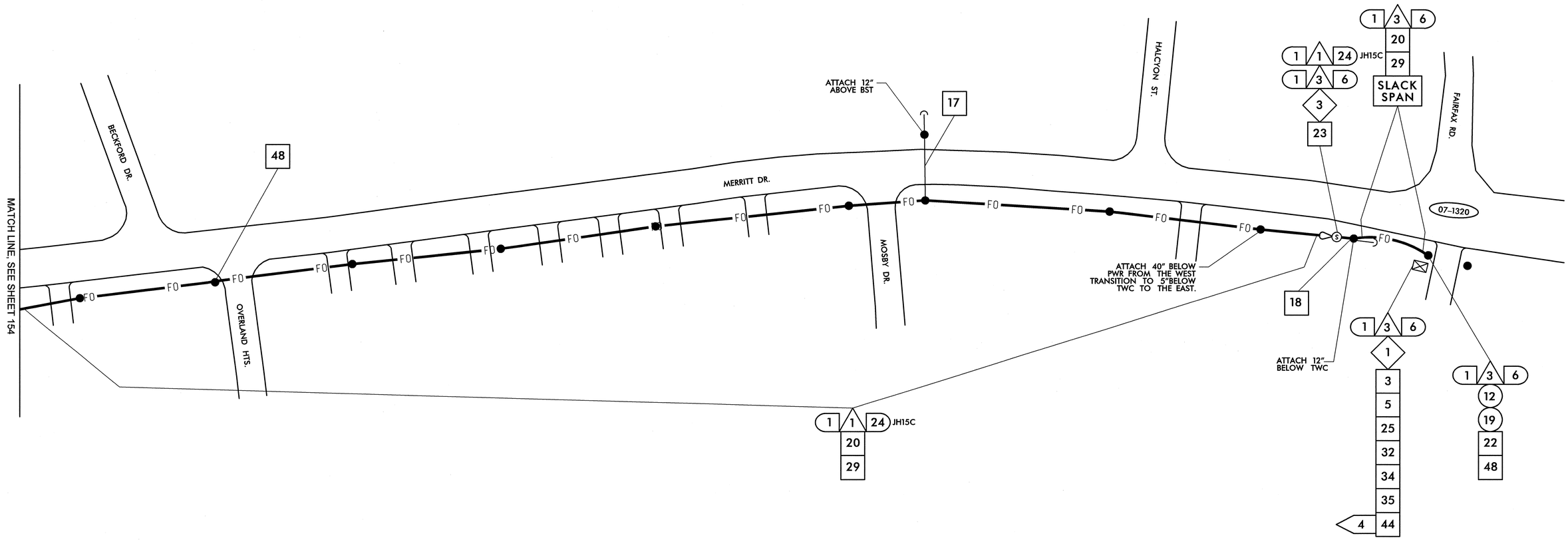
PROJECT REFERENCE NO.	SHEET NO.
U-4711	155



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2.20.08 DATE

CADD Filename: ...\Sht0155.dgn

2/20/2008
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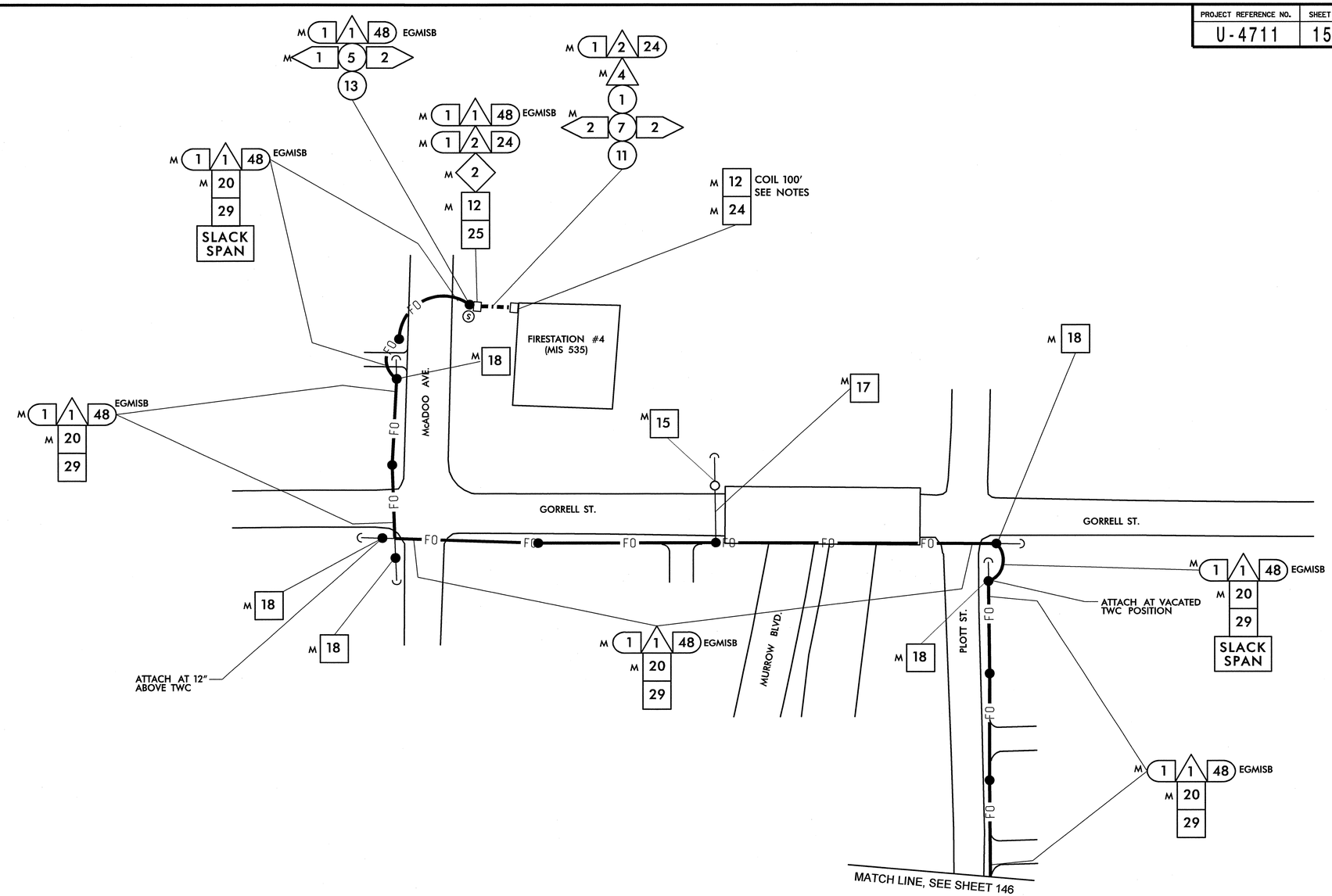
PROJECT REFERENCE NO.	SHEET NO.
U-4711	156



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

- 1 INSTALL SMFO CABLE
- 2 INSTALL PLENUM RATED FIBER OPTIC CABLE
- 3 INSTALL FIBER OPTIC DROP CABLE
- 4 INSTALL TRACER WIRE
- 5 REUSE NCDOT SMFO CABLE
- 6 REUSE GDOT SMFO CABLE
- (1) TRENCH
- (2) INSTALL PVC CONDUIT
- (3) INSTALL RIGID, GALVANIZED STEEL CONDUIT
- (4) INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
- (5) INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
- (6) INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
- (7) INSTALL POLYETHYLENE CONDUIT
- (8) DIRECTIONAL DRILL CONDUIT
- (9) BORE AND JACK CONDUIT
- (10) INSTALL CABLE(S) IN EXISTING CONDUIT
- (11) INSTALL CABLE(S) IN NEW CONDUIT
- (12) INSTALL CABLE(S) IN EXISTING RISER
- (13) INSTALL CABLE(S) IN NEW RISER
- (14) INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
- (15) INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- (16) INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- (17) INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
- (18) INSTALL NEW RISER INTO POLE MOUNTED CABINET
- (19) REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
- 1 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
- 2 INSTALL UNDERGROUND SPLICE ENCLOSURE
- 3 INSTALL AERIAL SPLICE ENCLOSURE
- 4 INSTALL POLE MOUNTED SPLICE CABINET
- 5 INSTALL BASE MOUNTED SPLICE CABINET
- 6 REMOVE EXISTING SPLICE CABINET
- 7 INSTALL TERMINAL SPLICE BOX
- 8 MODIFY EXISTING SPLICE ENCLOSURE
- 1 INSTALL CABINET FOUNDATION
- 2 REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
- 3 MODIFY EXISTING CABINET FOUNDATION
- 4 INSTALL NEW 333 COMMUNICATION CABINET
- 5 INSTALL NEW 332 BASE MOUNTED CABINET
- 6 INSTALL NEW 336S CABINET
- 7 INSTALL CCTV CAMERA ASSEMBLY
- 8 INSTALL CCTV CAMERA WOOD POLE
- 9 INSTALL CCTV METAL POLE AND FOUNDATION
- 10 INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
- 11 INSTALL SPECIAL OVERSIZED JUNCTION BOX
- 12 INSTALL OVERSIZED JUNCTION BOX
- 13 INSTALL STANDARD JUNCTION BOX
- 14 REMOVE EXISTING JUNCTION BOX
- 15 INSTALL WOOD POLE
- 16 REMOVE EXISTING WOOD POLE
- 17 INSTALL AERIAL GUY ASSEMBLY
- 18 INSTALL STANDARD GUY ASSEMBLY
- 19 INSTALL SIDEWALK GUY ASSEMBLY
- 20 INSTALL MESSENGER CABLE
- 21 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
- 22 REMOVE EXISTING COMMUNICATIONS CABLE
- 23 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
- 24 INSTALL DELINEATOR MARKER
- 25 STORE 30 FEET OF EACH COMMUNICATIONS CABLE
- 26 STORE 100 FEET OF EACH COMMUNICATIONS CABLE
- 27 LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
- 28 LASH CABLE(S) TO EXISTING MESSENGER CABLE
- 29 LASH CABLE(S) TO NEW MESSENGER CABLE
- 30 INSTALL NEW ELECTRICAL SERVICE
- 31 MODIFY EXISTING ELECTRICAL SERVICE
- 32 INSTALL NEW CONTROLLER
- 33 INSTALL EXISTING CABLE IN NEW CABINET
- 34 INSTALL GENERATOR POWER INLET BOX
- 35 INSTALL LOCAL GIGABIT ETHERNET SWITCH
- 36 INSTALL UNIFIED CABLE
- 37 INSTALL POLE MOUNTED EQUIPMENT CABINET
- 38 INSTALL UNI-DIRECTIONAL YAGI ANTENNA
- 39 INSTALL OMNI-DIRECTIONAL ANTENNA
- 40 INSTALL RADIO TRANSCEIVER
- 41 INSTALL SYSTEM LOOP
- 42 INSTALL SYSTEM LOOP AMPLIFIER
- 43 INSTALL SYSTEM LOOP LEAD-IN CABLE
- 44 INSTALL LOCAL LOOP AMPLIFIER
- 45 INSTALL CITY WI-FI ANTENNA
- 46 INSTALL HUB 10-GIGABIT ETHERNET SWITCH
- 47 INSTALL CODEC
- 48 BOND MESSENGER CABLE TO POLE GROUND
- 49 INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
- 50 INSTALL ANTENNA CABLE
- 51 RECONNECT RAILROAD PREEMPTION EQUIPMENT
- 52 RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
- 53 INSTALL DSL ETHERNET SWITCH
- 54 INSTALL ETHERNET CABLE
- 55 INSTALL TERMINAL SERVER
- 56 INSTALL MICROWAVE VEHICLE DETECTOR
- 57 INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
- 58 INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Intelligent Transportation Systems, Traffic Engineering and Safety Systems Branch, Division of Highways, State of North Carolina
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/29/08

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2/29/2008
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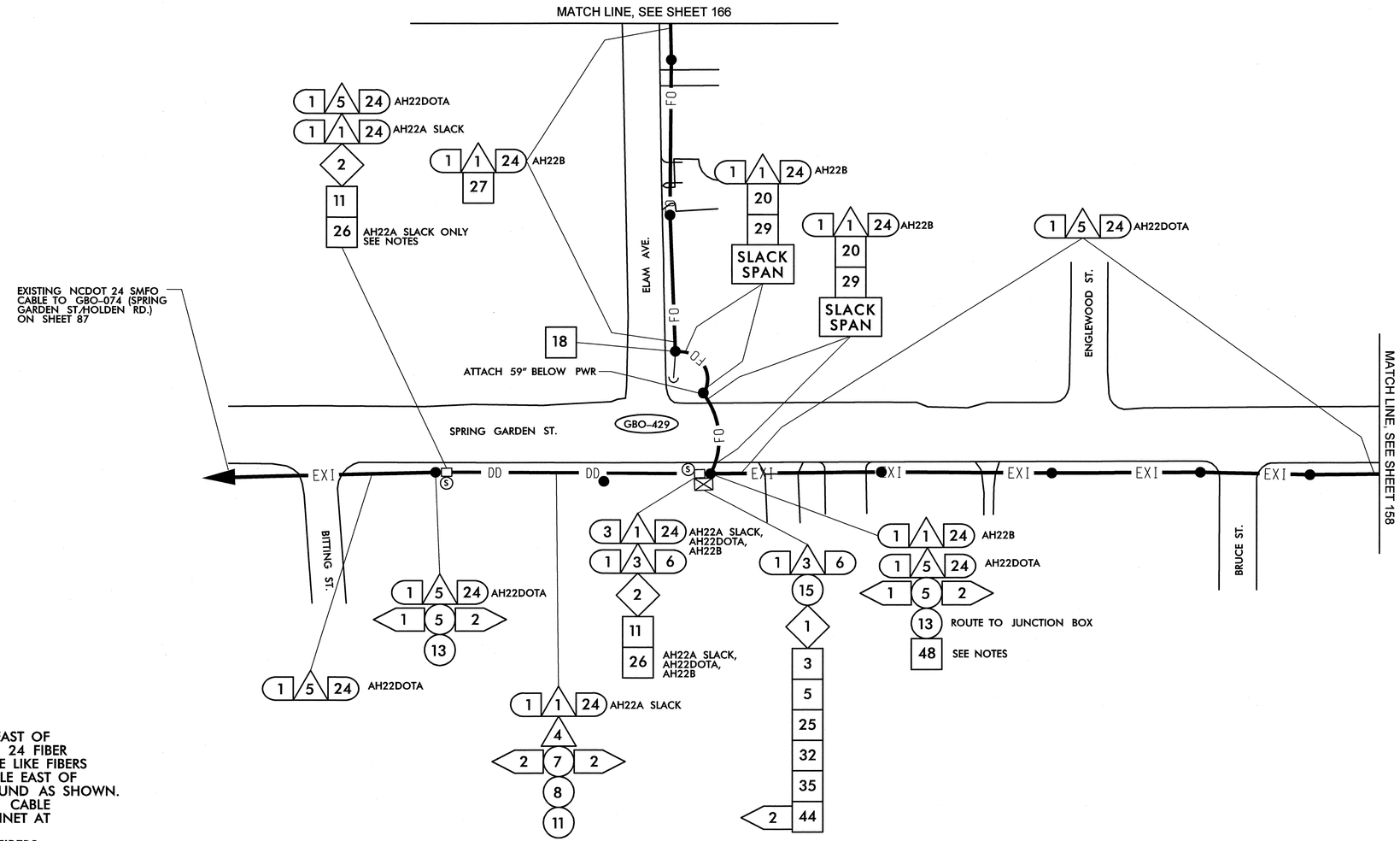
PROJECT REFERENCE NO.	SHEET NO.
U-4711	157



NOTES (THIS SHEET ONLY)
1. SPLICE IN NEW 24 FIBER CABLE AT POLE EAST OF BITTING ST. TO PROVIDE SLACK IN EXISTING 24 FIBER CABLE. CUT EXISTING CABLE MID-SPAN. SPLICE LIKE FIBERS TO LIKE FIBERS IN SPLICE ENCLOSURE AT POLE EAST OF BITTING ST. ROUTE SLACK CABLE UNDERGROUND AS SHOWN.
2. SPLICE SLACK CABLE BACK INTO EXISTING CABLE AT POLE AT NEW SPLICE ENCLOSURE AT CABINET AT GBO-429. ROUTE EXISTING CABLE UP RISER.
3. HANDLE EXISTING CABLE TO INSURE ALL FIBERS ARE REUSABLE TO THEIR PRE-CONSTRUCTION LEVEL OF PERFORMANCE. UNLASH EXISTING NCDOT 24 SMFO CABLE FROM EXISTING MESSENGER AND ROUTE TO NEW SPLICE ENCLOSURES TO SPLICE INTO NEW SLACK CABLE.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

N
SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

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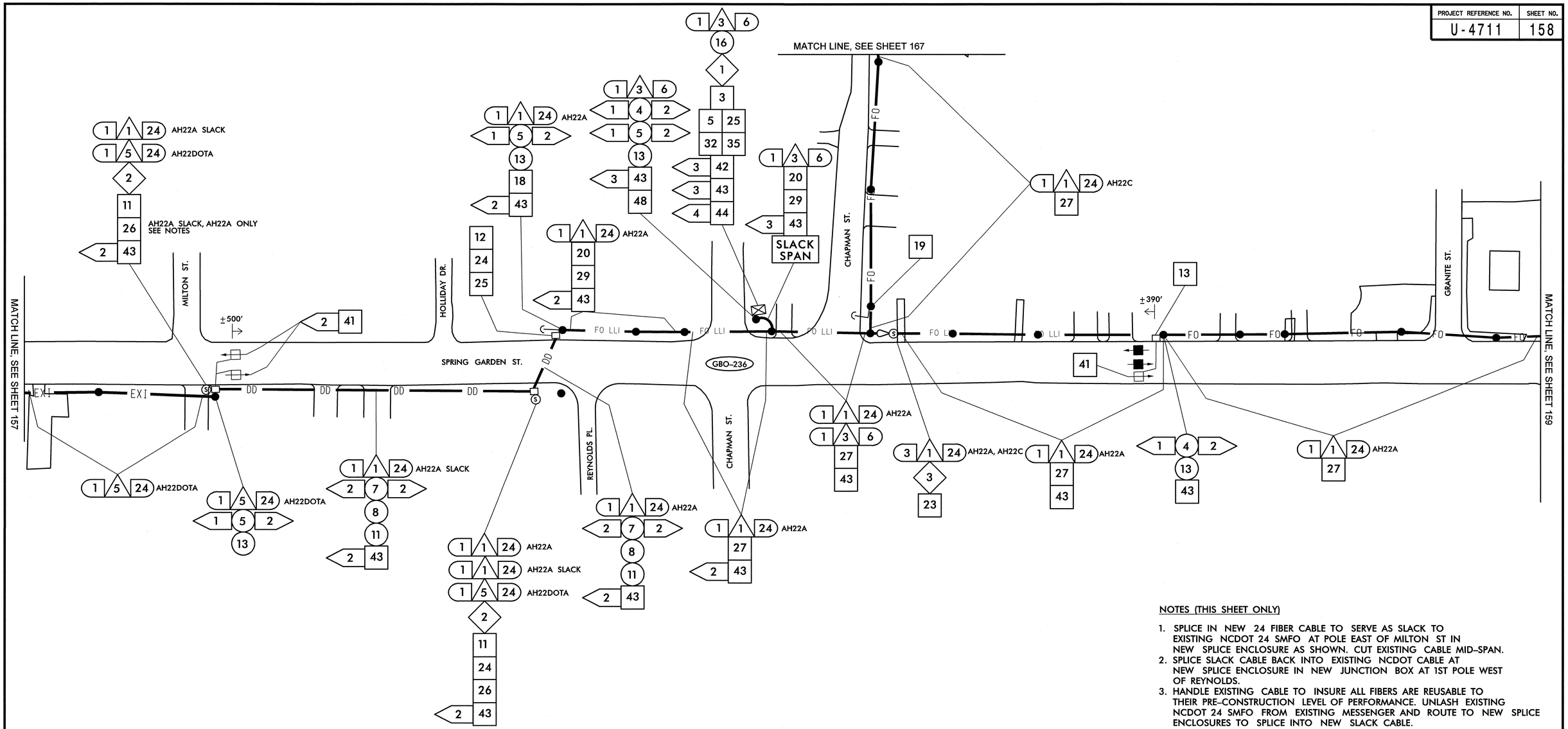
PROJECT REFERENCE NO.	SHEET NO.
U-4711	158



NOTES (THIS SHEET ONLY)

1. SPLICE IN NEW 24 FIBER CABLE TO SERVE AS SLACK TO EXISTING NCDOT 24 SMFO AT POLE EAST OF MILTON ST IN NEW SPLICE ENCLOSURE AS SHOWN. CUT EXISTING CABLE MID-SPAN.
2. SPLICE SLACK CABLE BACK INTO EXISTING NCDOT CABLE AT NEW SPLICE ENCLOSURE IN NEW JUNCTION BOX AT 1ST POLE WEST OF REYNOLDS.
3. HANDLE EXISTING CABLE TO INSURE ALL FIBERS ARE REUSABLE TO THEIR PRE-CONSTRUCTION LEVEL OF PERFORMANCE. UNLASH EXISTING NCDOT 24 SMFO FROM EXISTING MESSENGER AND ROUTE TO NEW SPLICE ENCLOSURES TO SPLICE INTO NEW SLACK CABLE.

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
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8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
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7	INSTALL TERMINAL SPLICE BOX
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1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
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23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
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51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

State Highway and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

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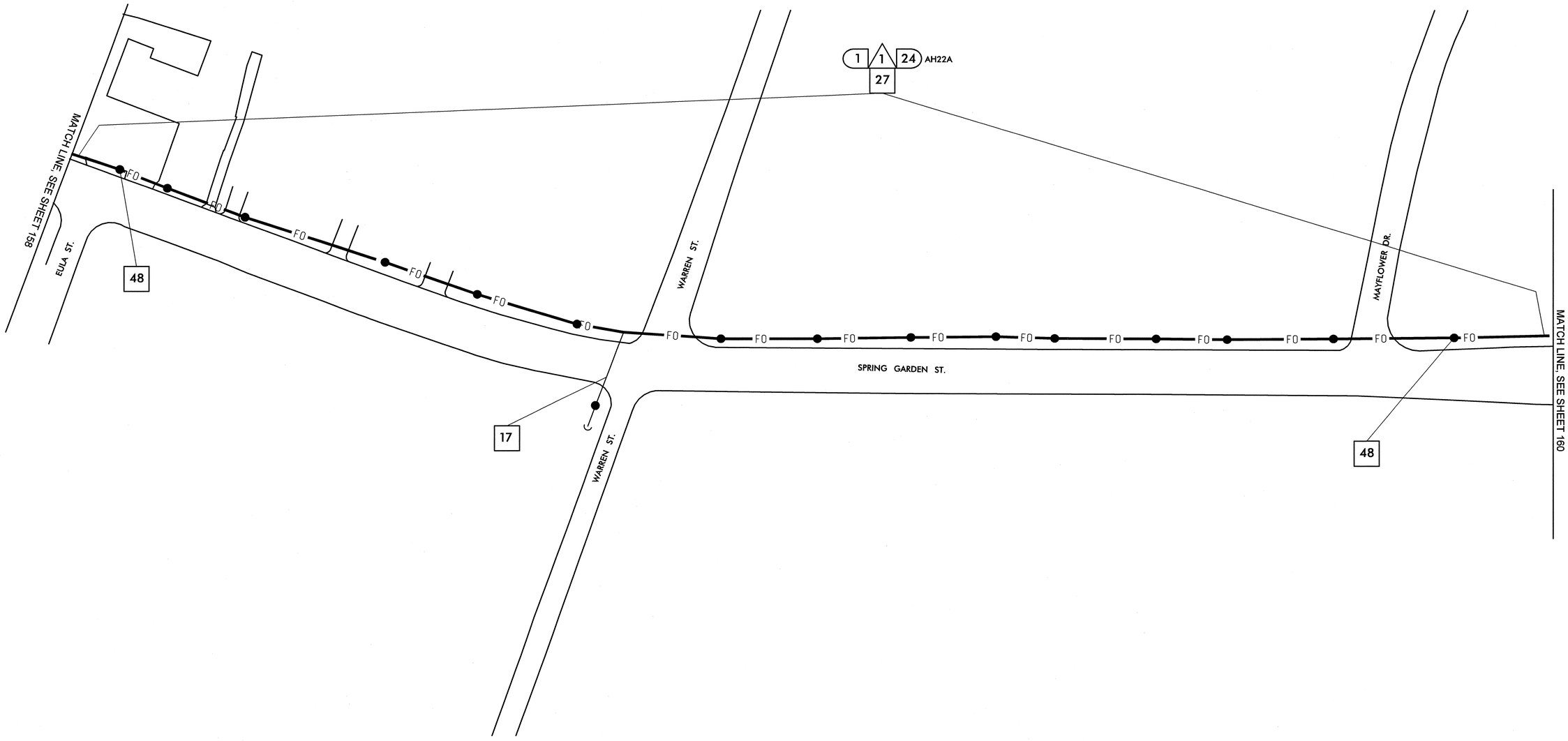
PROJECT REFERENCE NO.	SHEET NO.
U-4711	159



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
DIVISION OF HIGHWAYS
DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

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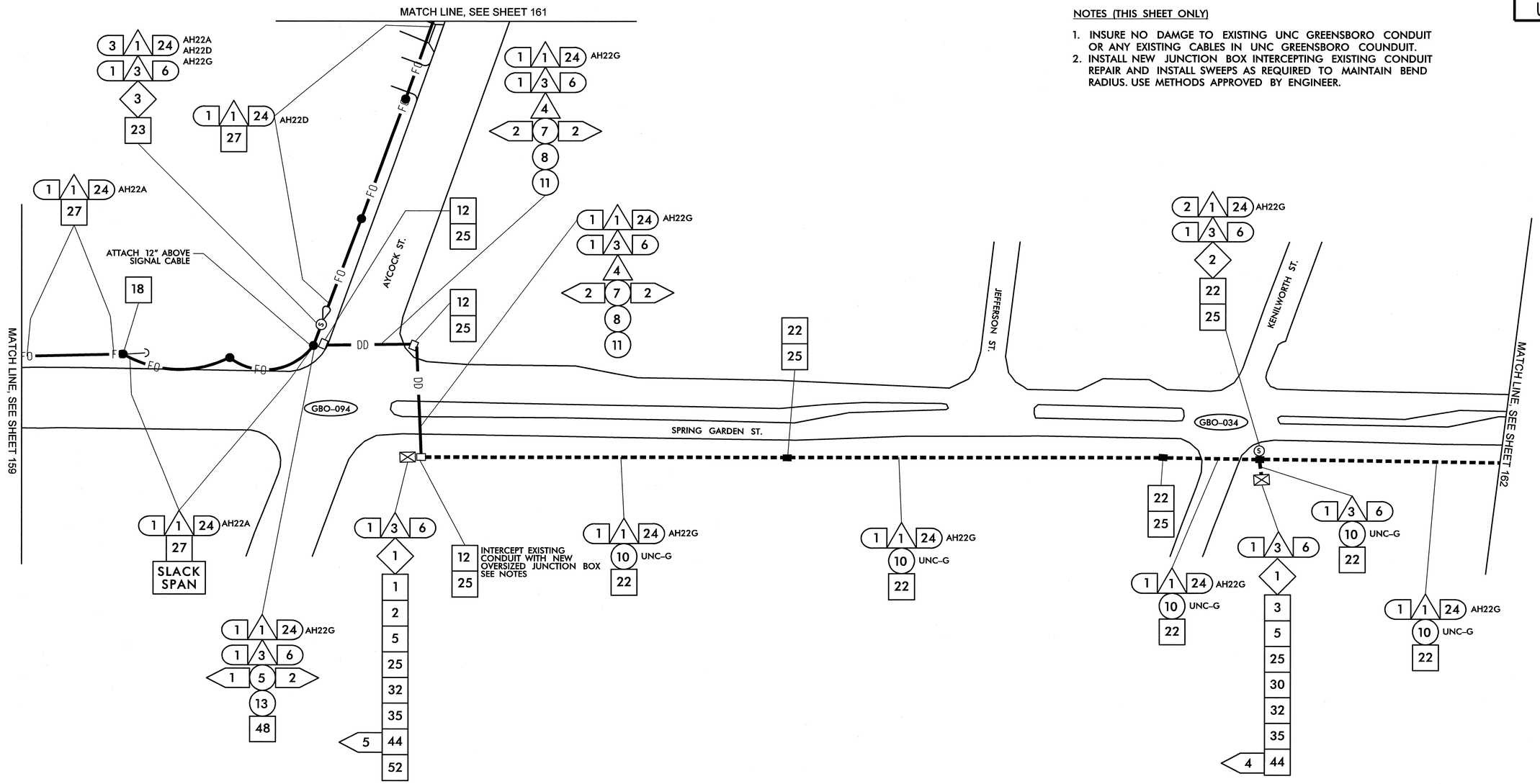
PROJECT REFERENCE NO.	SHEET NO.
U-4711	160

NOTES (THIS SHEET ONLY)

1. INSURE NO DAMGE TO EXISTING UNC GREENSBORO CONDUIT OR ANY EXISTING CABLES IN UNC GREENSBORO COUNDUIT.
2. INSTALL NEW JUNCTION BOX INTERCEPTING EXISTING CONDUIT REPAIR AND INSTALL SWEEPS AS REQUIRED TO MAINTAIN BEND RADIUS. USE METHODS APPROVED BY ENGINEER.



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NOTE:
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PLANS PREPARED IN THE OFFICE OF:

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Traffic Engineering and Safety Systems Branch
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008		REVIEWED BY: K.W. SMITH	
PREPARED BY: K.D. VANPATTEN		REVIEWED BY: M.W. DUNZO	
REVISIONS		INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

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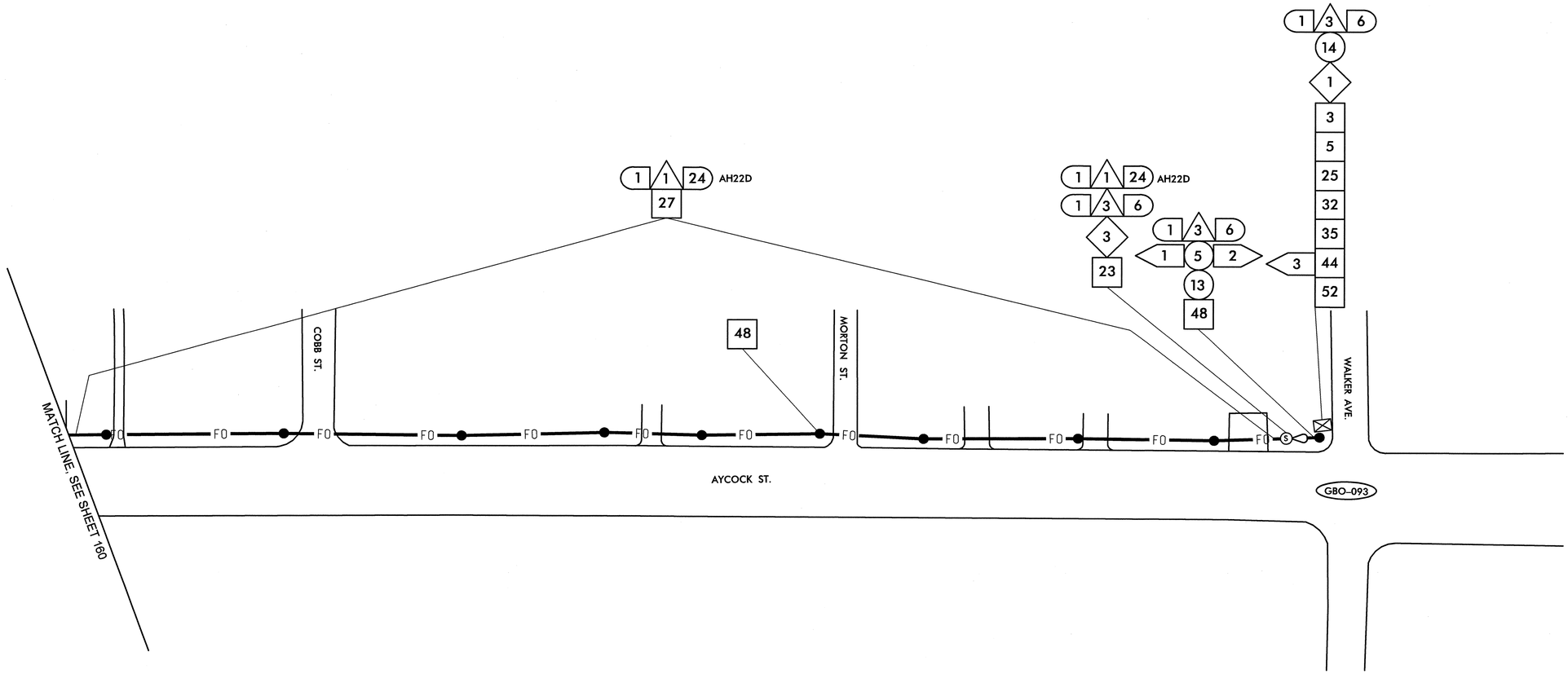
PROJECT REFERENCE NO.	SHEET NO.
U-4711	161



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5	REUSE NCDOT SMFO CABLE
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1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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15	INSTALL WOOD POLE
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17	INSTALL AERIAL GUY ASSEMBLY
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19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
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43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
DIVISION OF HIGHWAYS, STATE OF NORTH CAROLINA
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0161.dgn

2/20/2008
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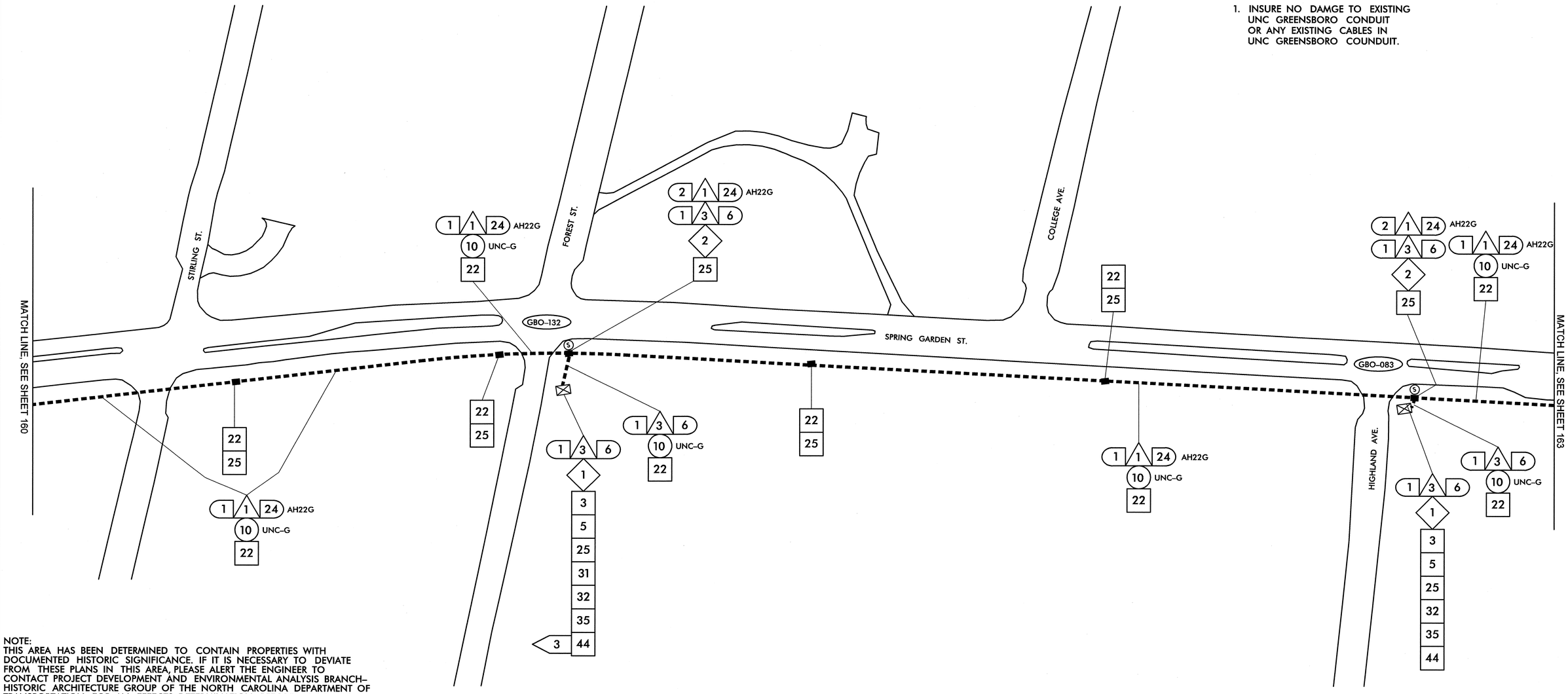
PROJECT REFERENCE NO.	SHEET NO.
U-4711	162

NOTES (THIS SHEET ONLY)

1. INSURE NO DAMGE TO EXISTING UNC GREENSBORO CONDUIT OR ANY EXISTING CABLES IN UNC GREENSBORO COUNDUIT.



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1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
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4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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Traffic Engineering and Safety Systems Branch
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Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0162.dgn

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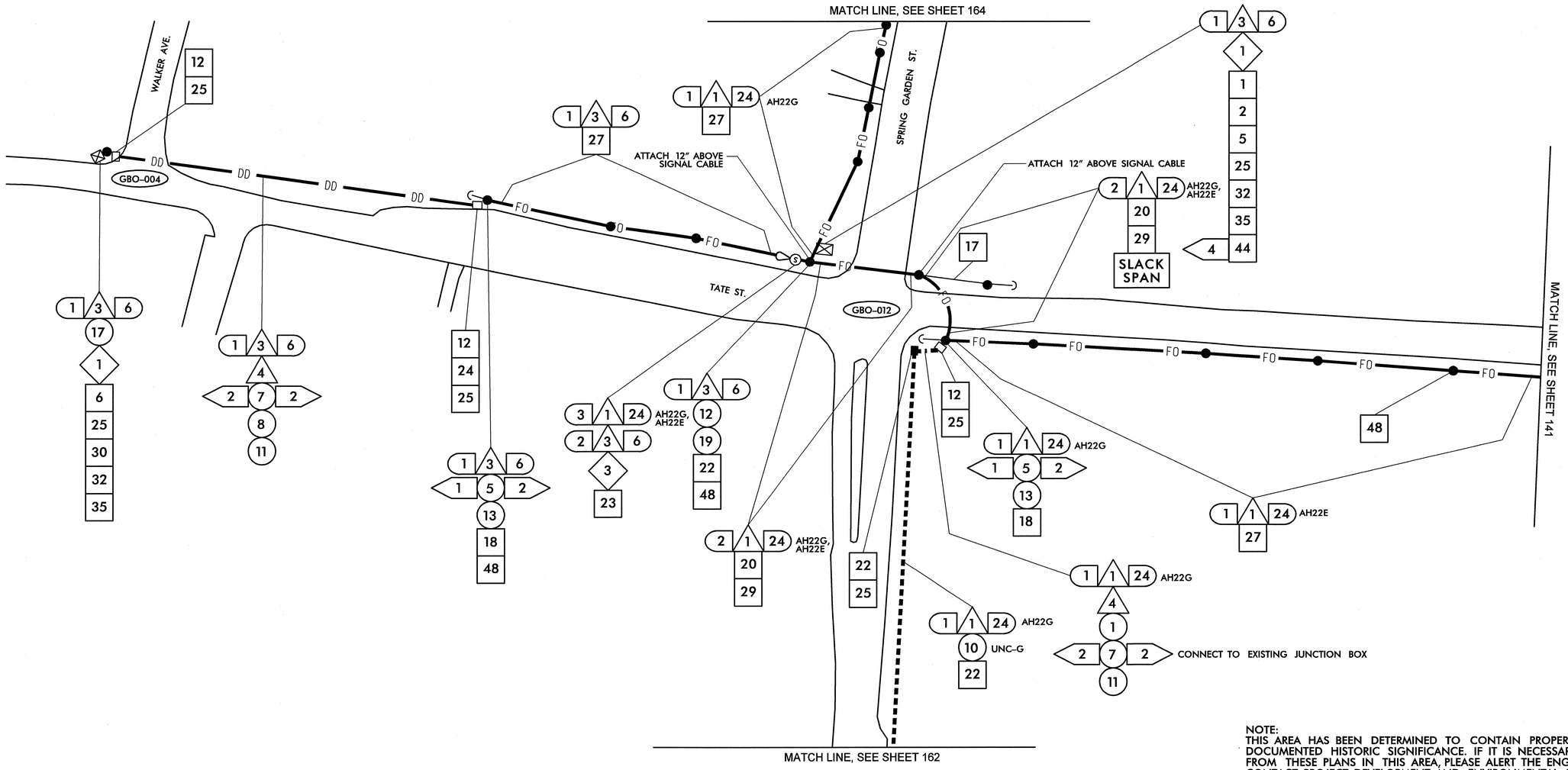
PROJECT REFERENCE NO.	SHEET NO.
U-4711	163



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1. INSTALL SMFO CABLE
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5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/29/08

CADD Filename: ...\Sht0163.dgn

2/29/2008
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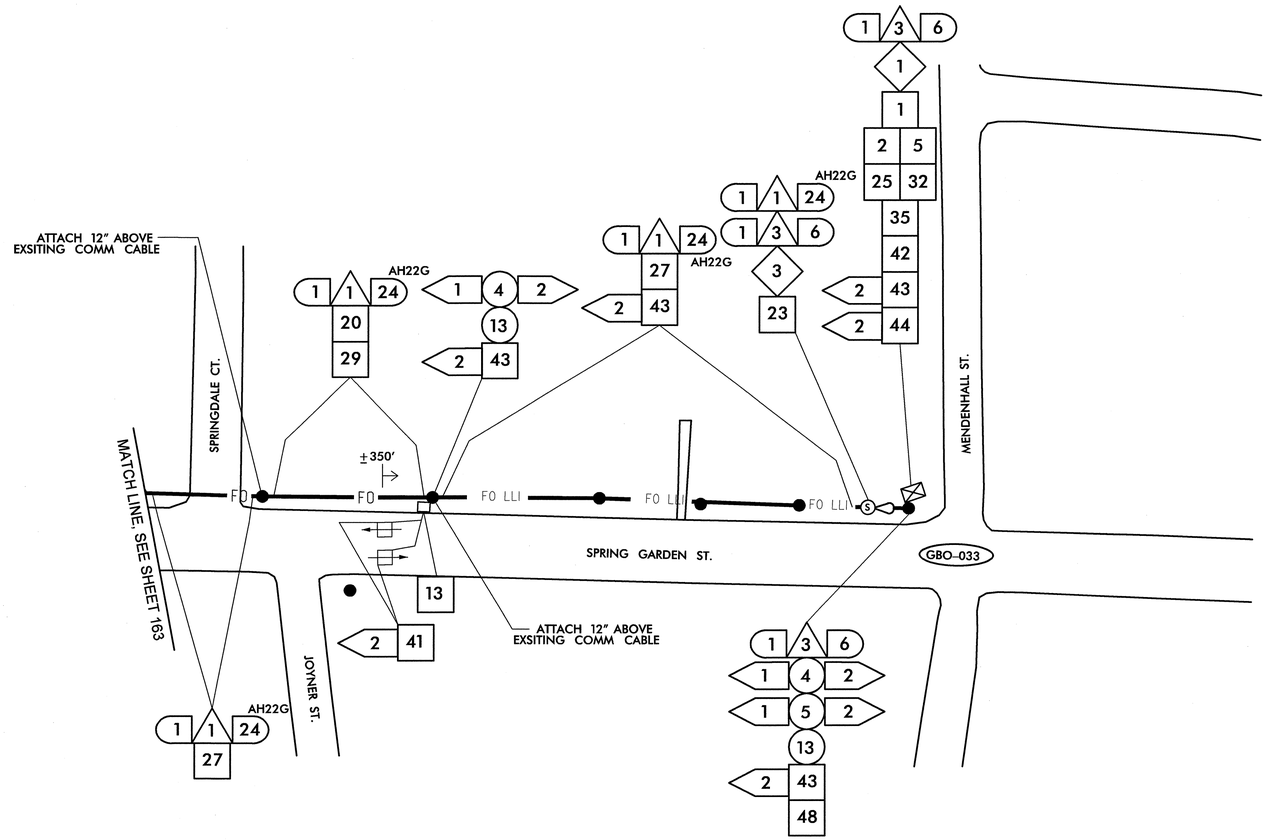
PROJECT REFERENCE NO.	SHEET NO.
U-4711	164



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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Building
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/29/08

CADD Filename: ...\Sht0164.dgn

2/29/2008
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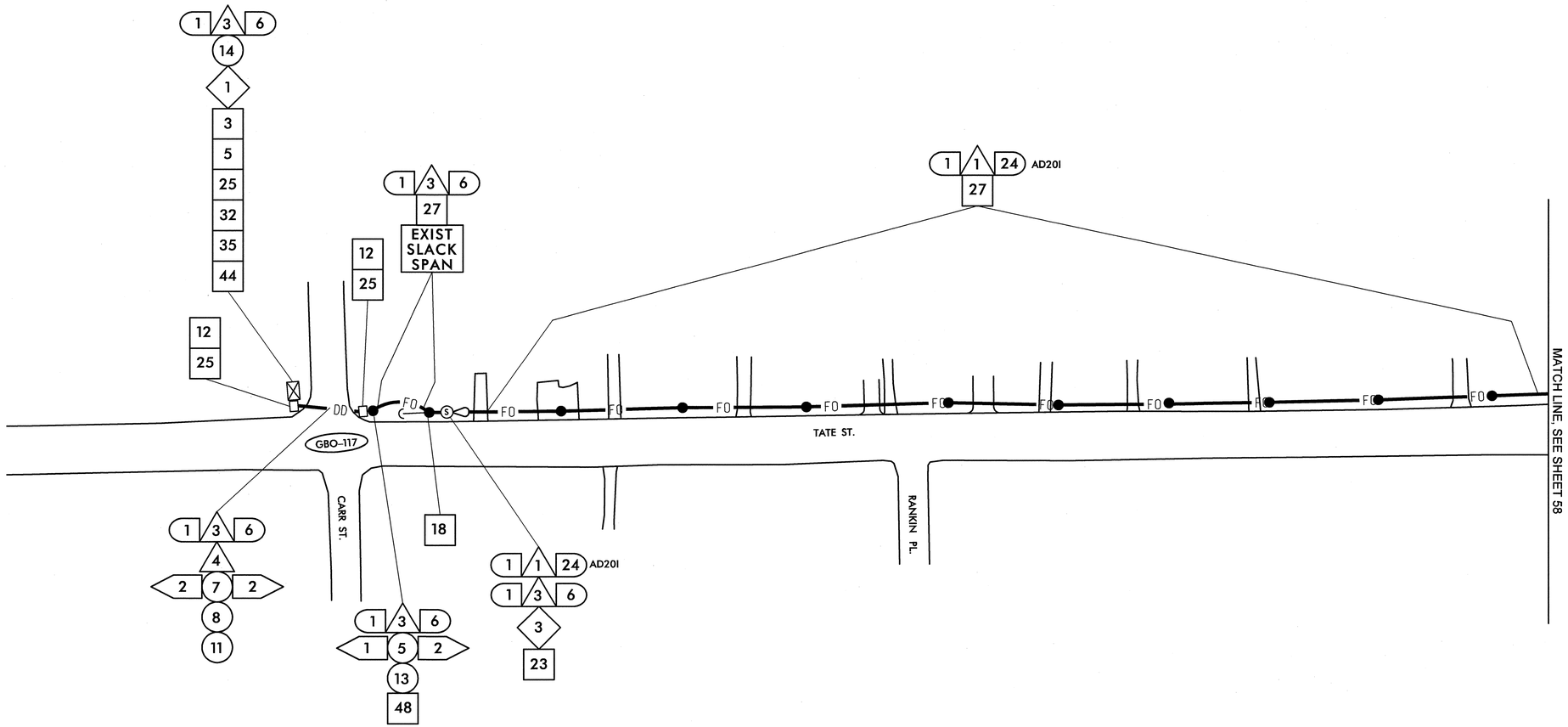
PROJECT REFERENCE NO.	SHEET NO.
U-4711	165



NOTE:
THIS AREA HAS BEEN DETERMINED TO CONTAIN PROPERTIES WITH DOCUMENTED HISTORIC SIGNIFICANCE. IF IT IS NECESSARY TO DEVIATE FROM THESE PLANS IN THIS AREA, PLEASE ALERT THE ENGINEER TO CONTACT PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH–HISTORIC ARCHITECTURE GROUP OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FOR AN EFFECTS DETERMINATION BEFORE PROCEEDING.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE

1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING

1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE

1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
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17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

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PREPARED BY: K.D. VANPATTEN		REVIEWED BY: M.W. DUNZO	
REVISIONS		INIT.	DATE

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SIGNATURE 2/20/08 DATE
CADD Filename: ...\Sht0165.dgn

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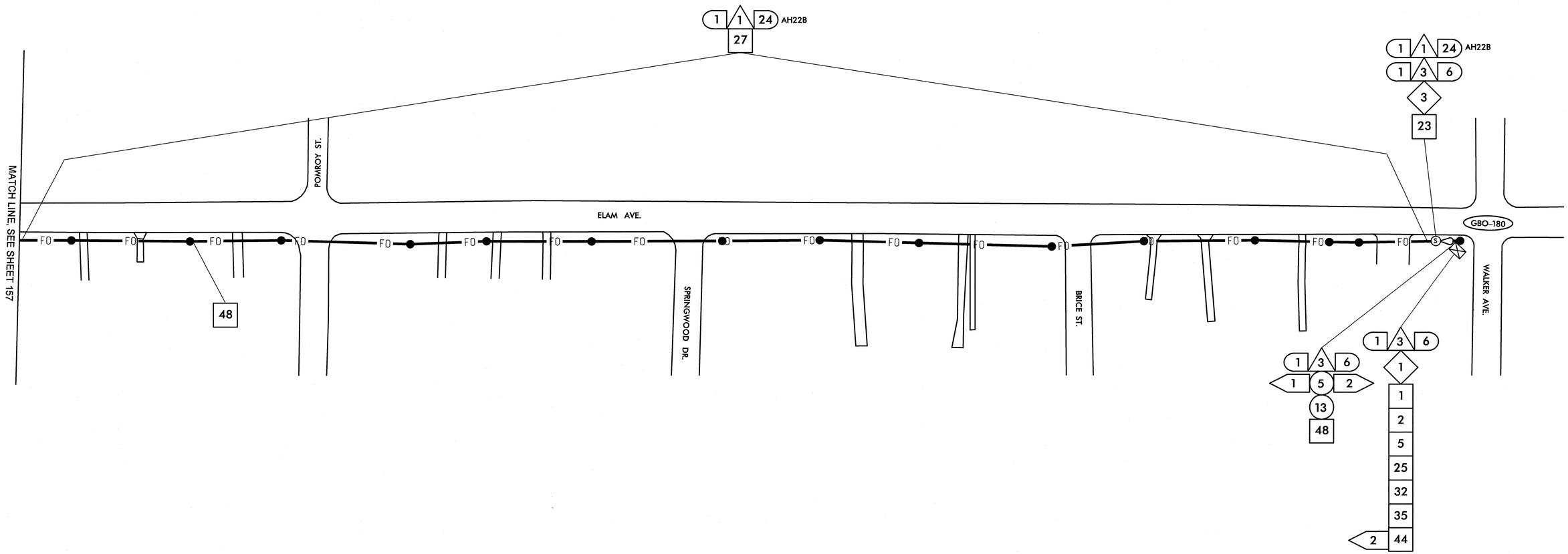
PROJECT REFERENCE NO.	SHEET NO.
U-4711	166



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6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
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CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

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SIGNATURE 2/20/08 DATE

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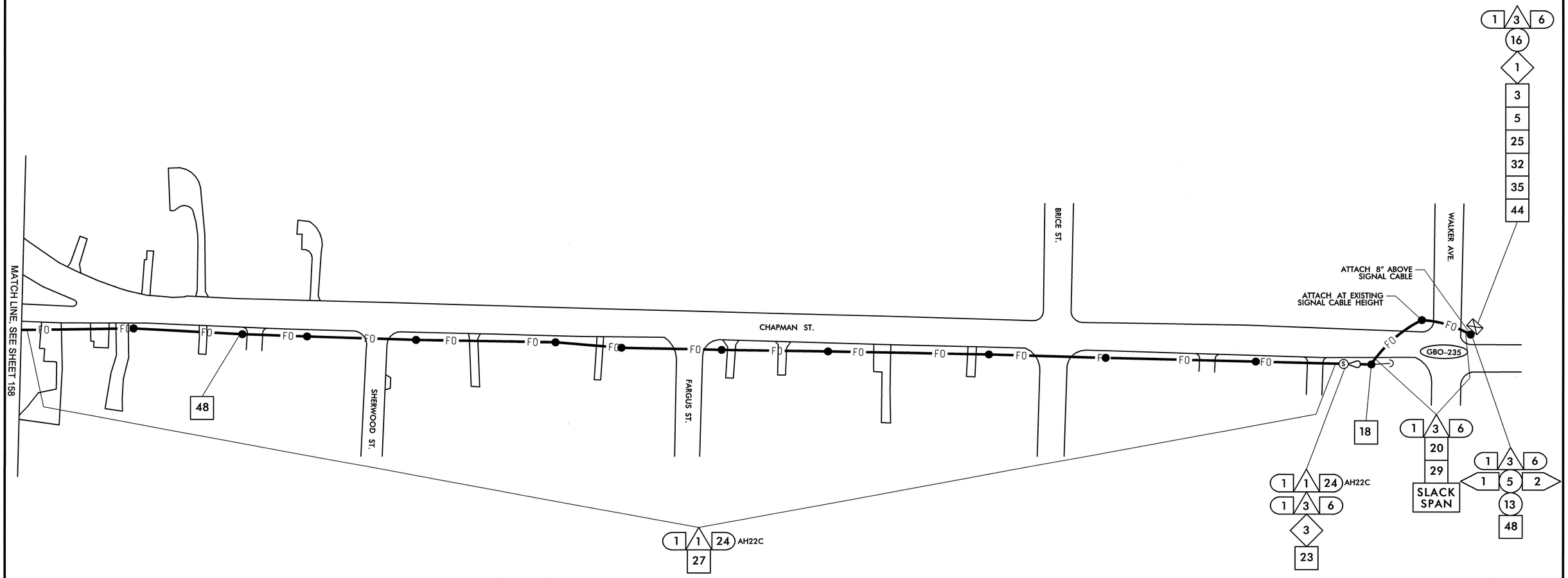
PROJECT REFERENCE NO.	SHEET NO.
U-4711	167



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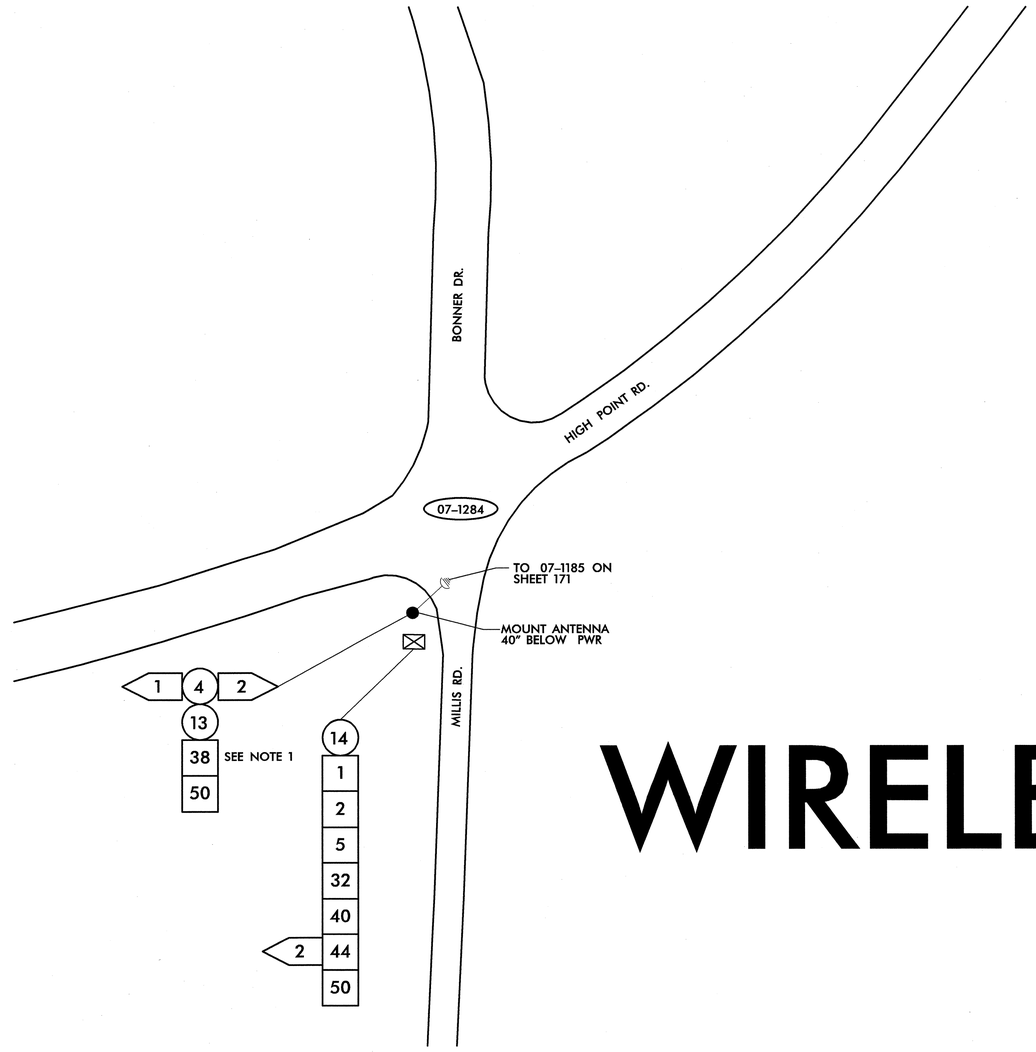
PROJECT REFERENCE NO.	SHEET NO.
U-4711	168



WIRELESS

NOTE: (THIS SHEET ONLY)
1. ANTENNA ORIENTATION FOR DISPLAY PURPOSE ONLY. FINAL ORIENTATION TO BE DETERMINED IN THE FIELD.

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GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

N
SCALE 0 50

CITY OF GREENSBORO
COMPUTERIZED
SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0168.dgn

2/20/2008
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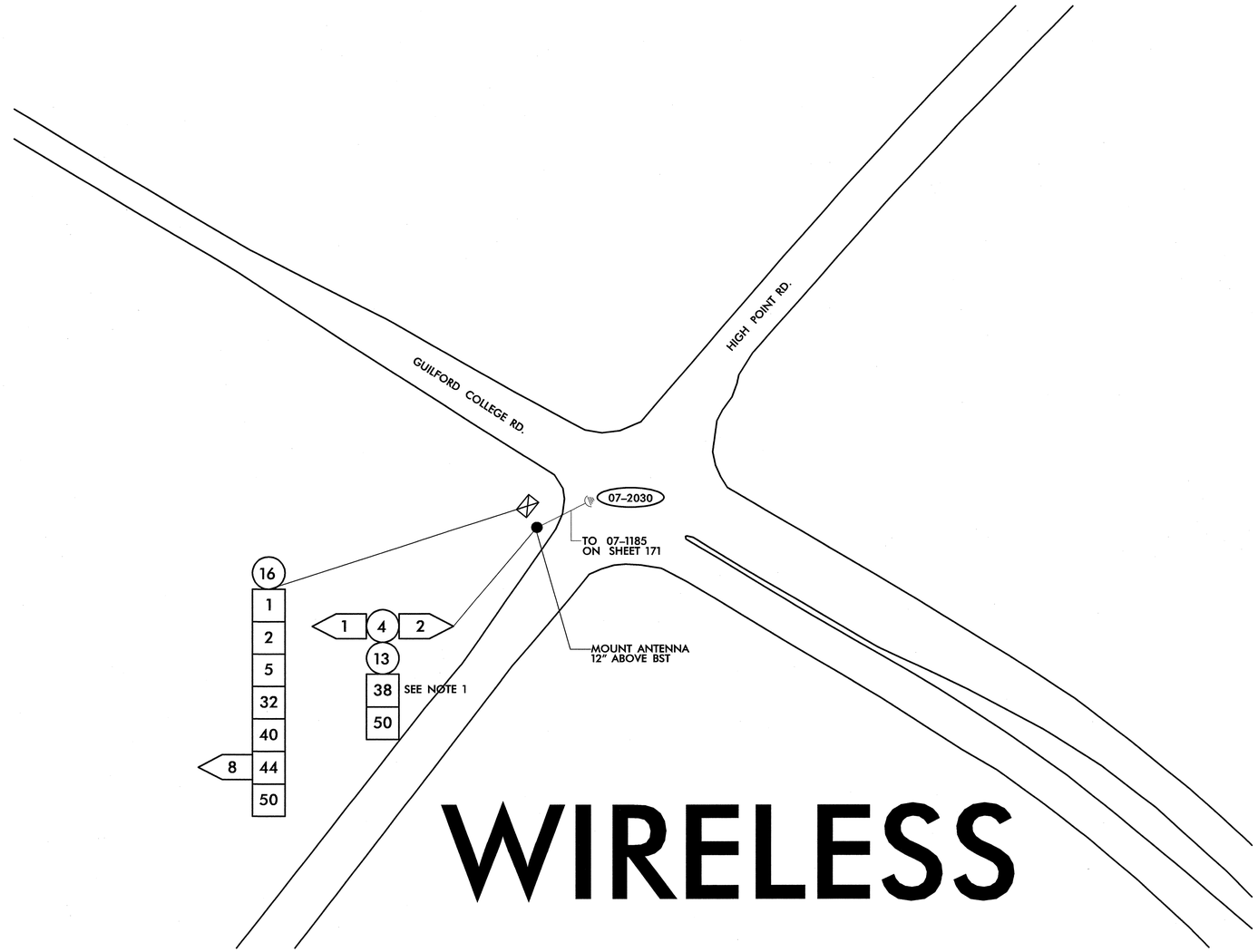
PROJECT REFERENCE NO.	SHEET NO.
U-4711	169



NOTE: (THIS SHEET ONLY)
1. ANTENNA ORIENTATION FOR DISPLAY PURPOSE ONLY. FINAL ORIENTATION TO BE DETERMINED IN THE FIELD.

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
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19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
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31	MODIFY EXISTING ELECTRICAL SERVICE
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35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
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39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
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50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
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53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE 2/29/08 DATE

CADD Filenames ...\Sht0169.dgn

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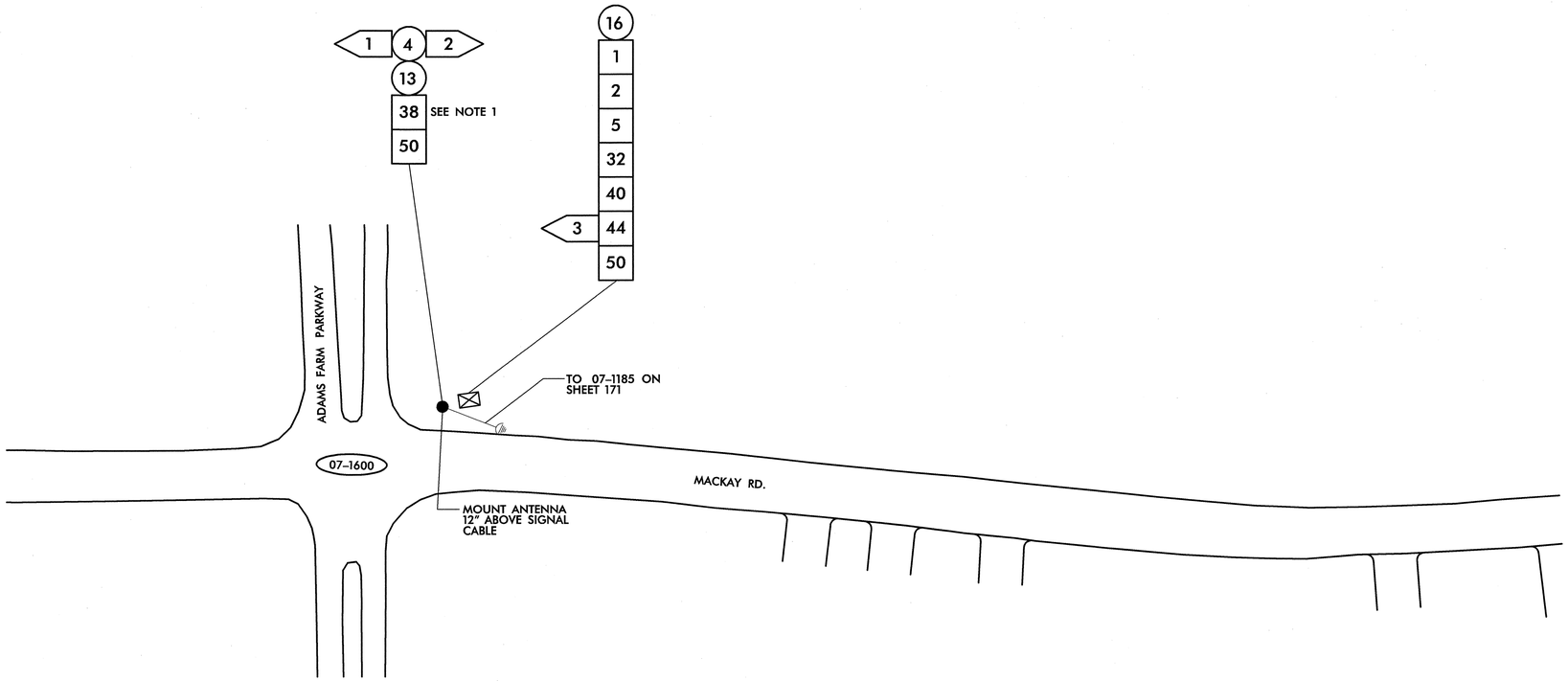
PROJECT REFERENCE NO.	SHEET NO.
U-4711	170



WIRELESS

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Public Academy and Safety Systems Branch
Intelligent Transportation Systems
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0170.dgn

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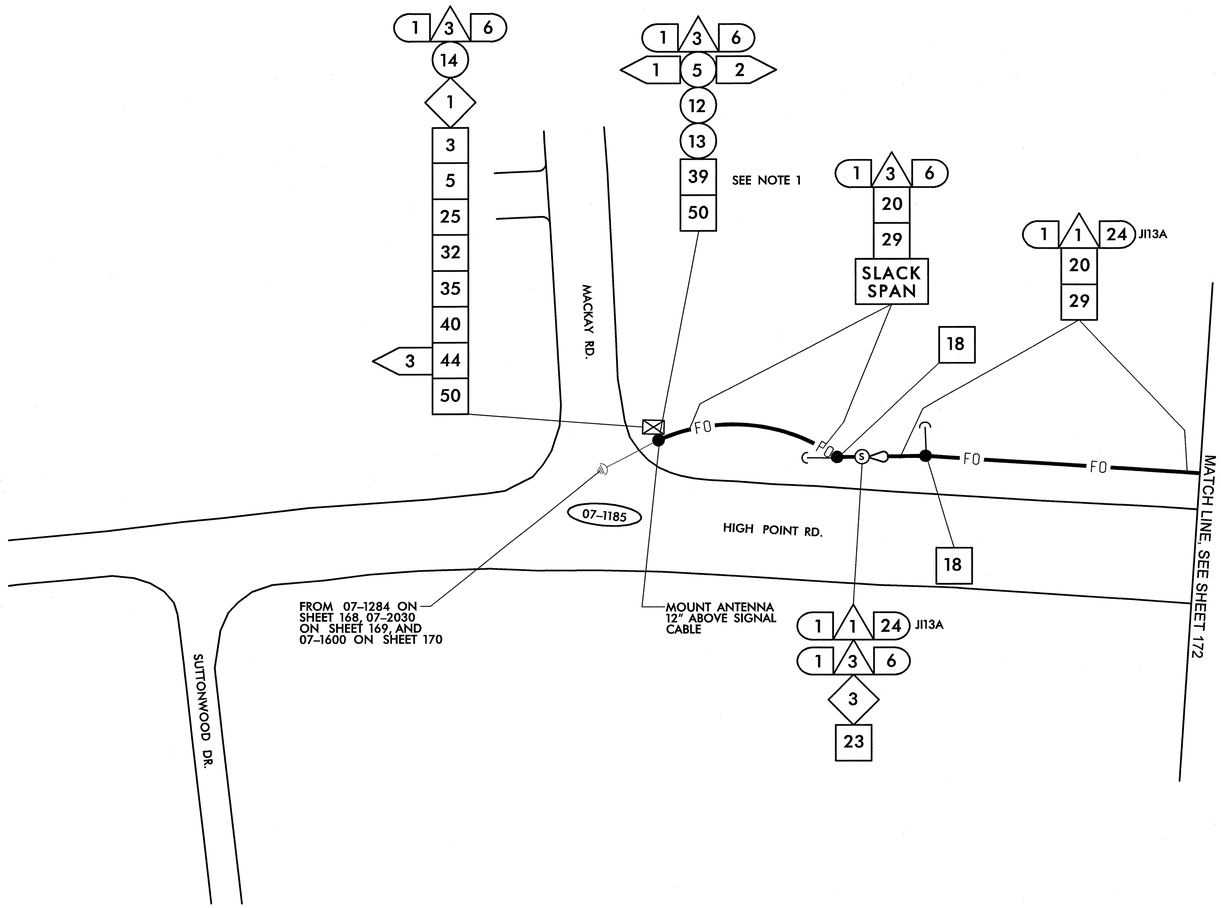
PROJECT REFERENCE NO.	SHEET NO.
U-4711	171



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CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
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CADD Filename: ...\Sht0171.dgn

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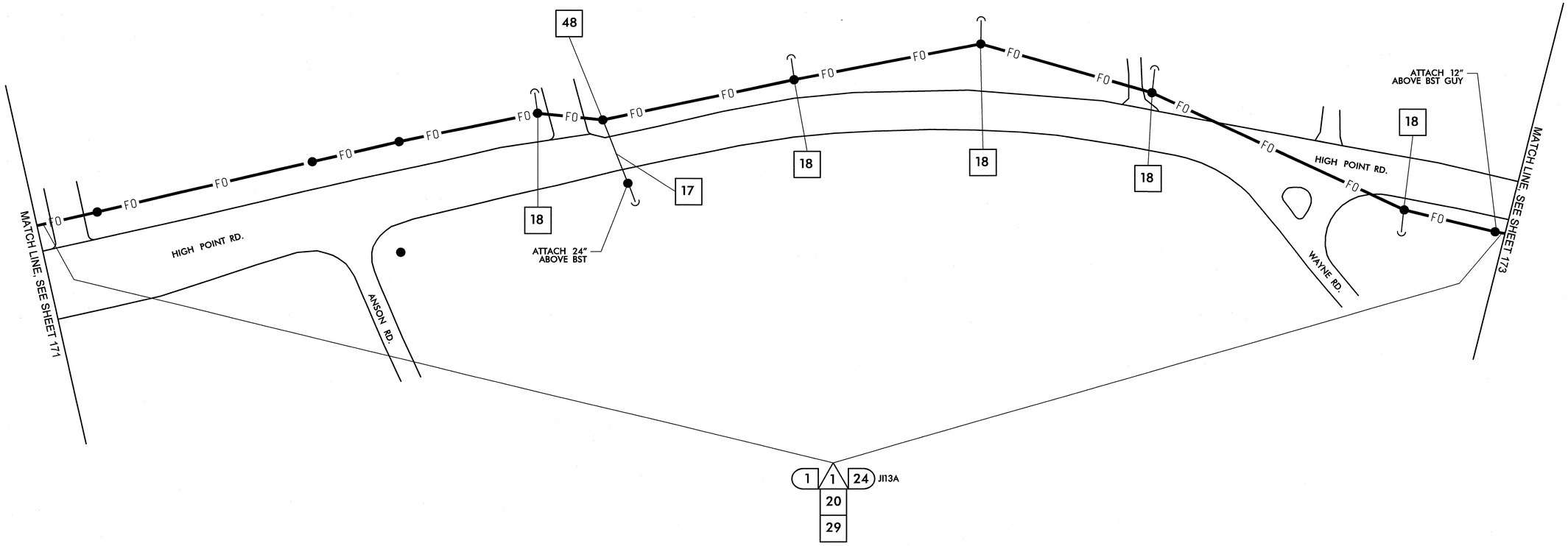
U-4711	172



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DIVISION 7 — GUILFORD COUNTY

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CADD Filenames: ...\Sht0172.dgn

2/20/2008
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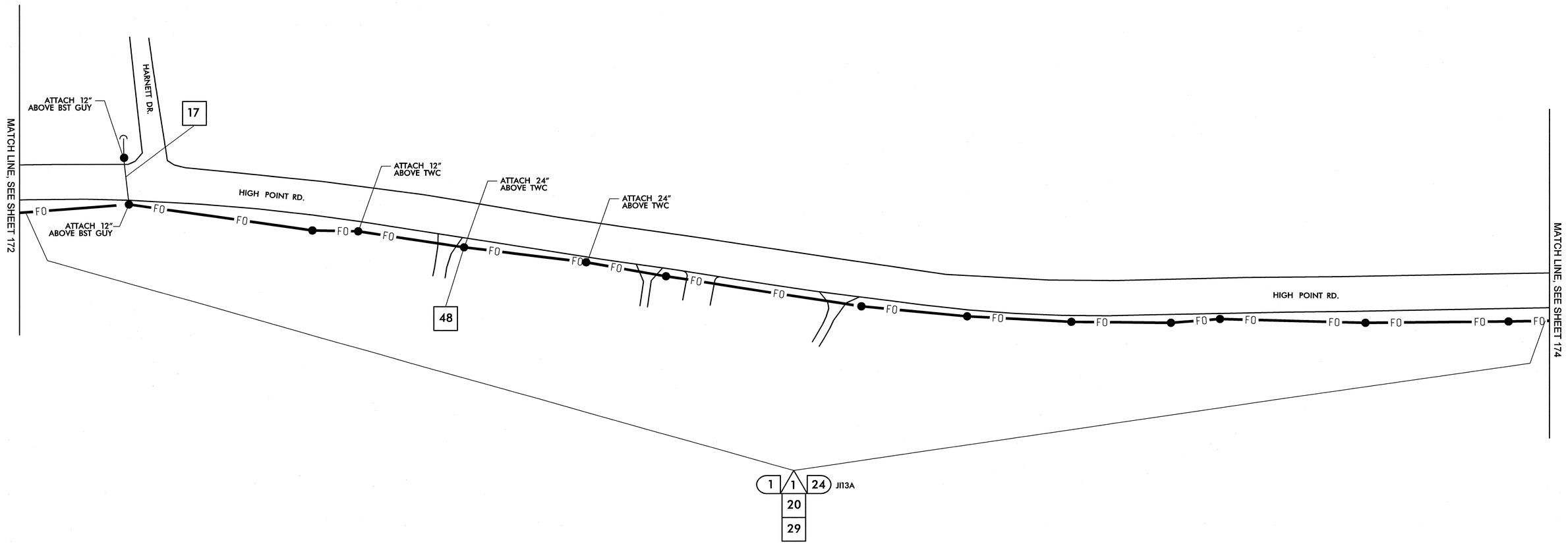
PROJECT REFERENCE NO.	SHEET NO.
U-4711	173



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

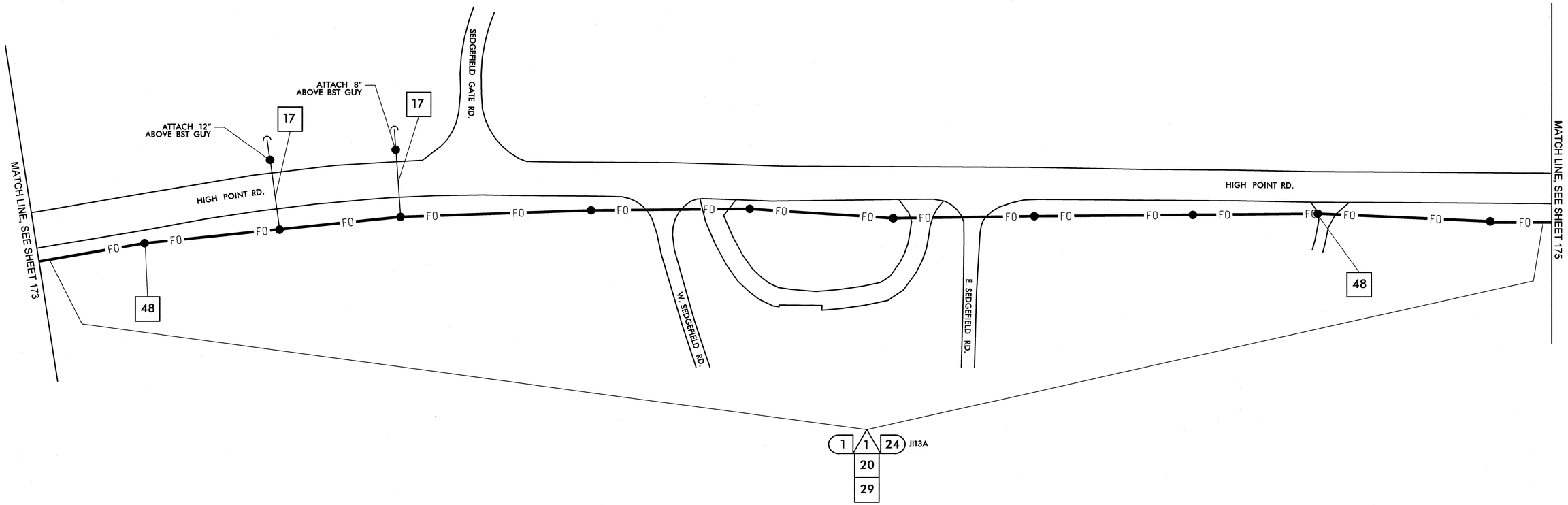
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filenames ...\Sht0173.dgn

2/20/2008
I:\systems\projects\U4462020 tg-bore mbh\Sht0173.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	174



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6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
TRANSPORTATION MANAGEMENT CENTER
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Solutions
759 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0174.dgn

2/20/2008
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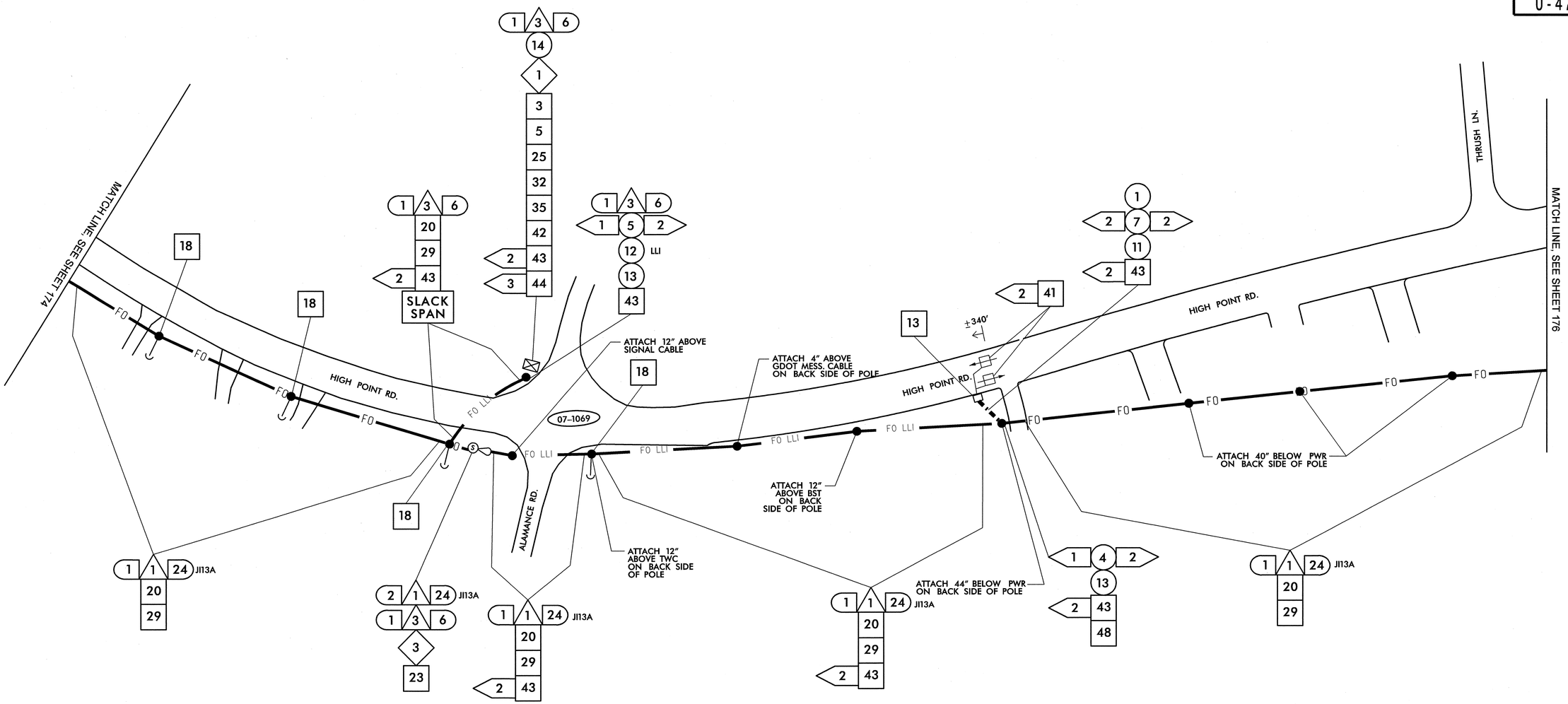
PROJECT REFERENCE NO.	SHEET NO.
U-4711	175



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3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
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50	INSTALL ANTENNA CABLE
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53	INSTALL DSL ETHERNET SWITCH
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55	INSTALL TERMINAL SERVER
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0175.dgn

2/20/2008
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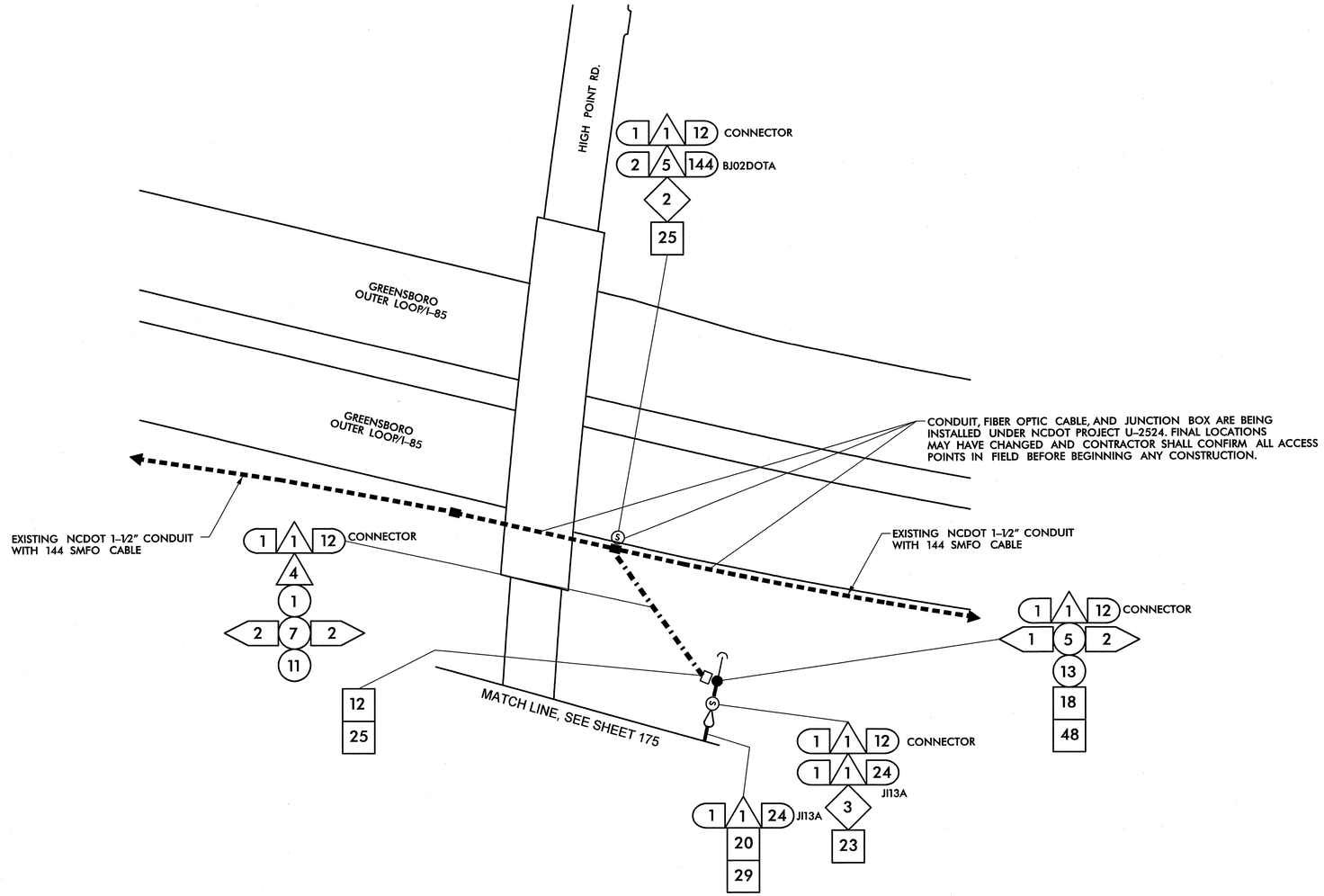
PROJECT REFERENCE NO.	SHEET NO.
U-4711	176



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH		
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE		
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER		
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR		
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT		
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE		
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

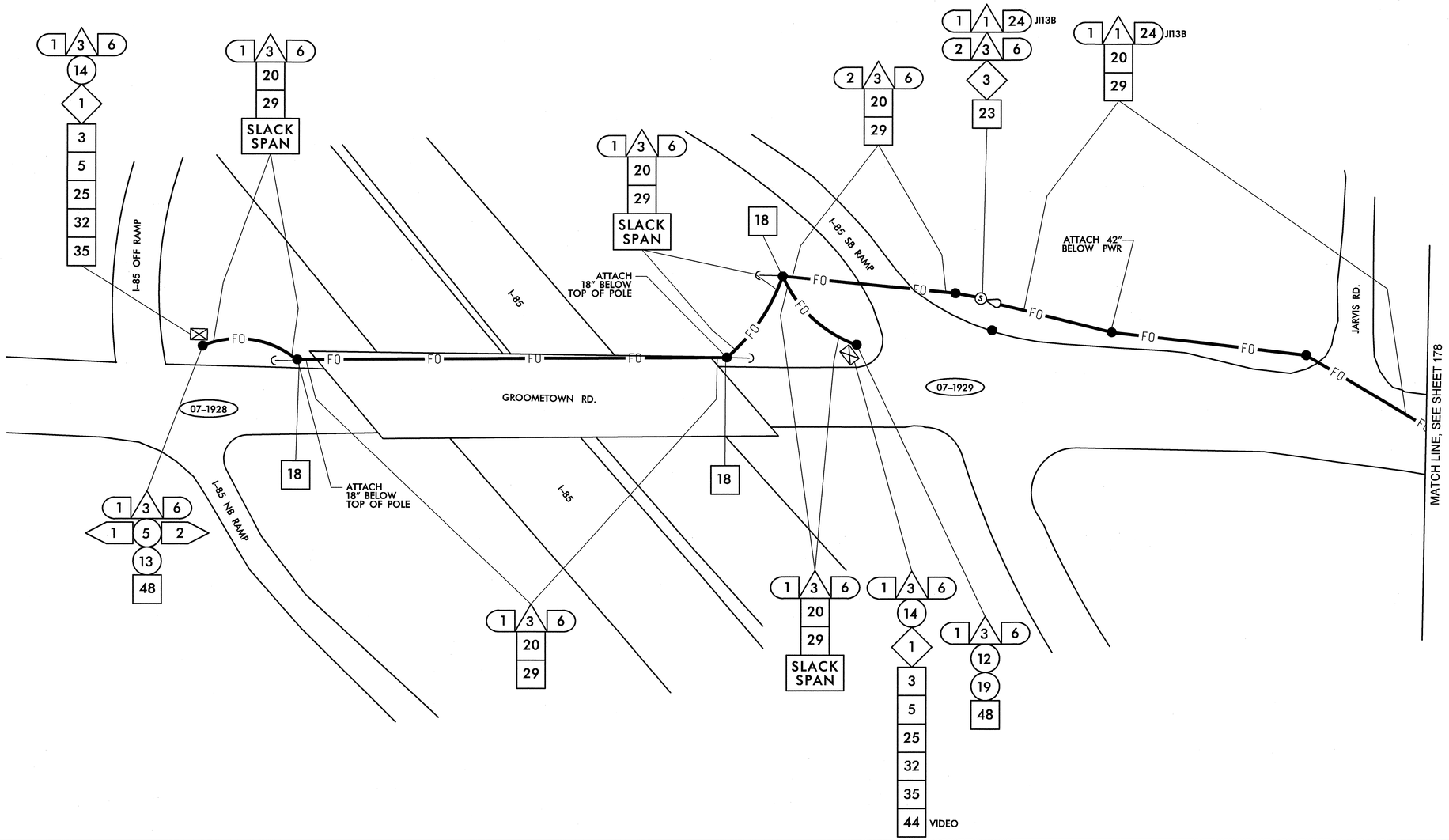
PLAN DATE: FEBRUARY, 2008		REVIEWED BY: K.W. SMITH	
PREPARED BY: K.D. VANPATTEN		REVIEWED BY: M.W. DUNZO	
REVISIONS		INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE 2/20/08 DATE

CADD Filenames ...\Sht0176.dgn

2/20/2008
n:\systems\projects\U\4520\20 tg-bore mta\Sht0176.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	177



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3	INSTALL FIBER OPTIC DROP CABLE
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13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sh+0177.dgn

2/20/2008
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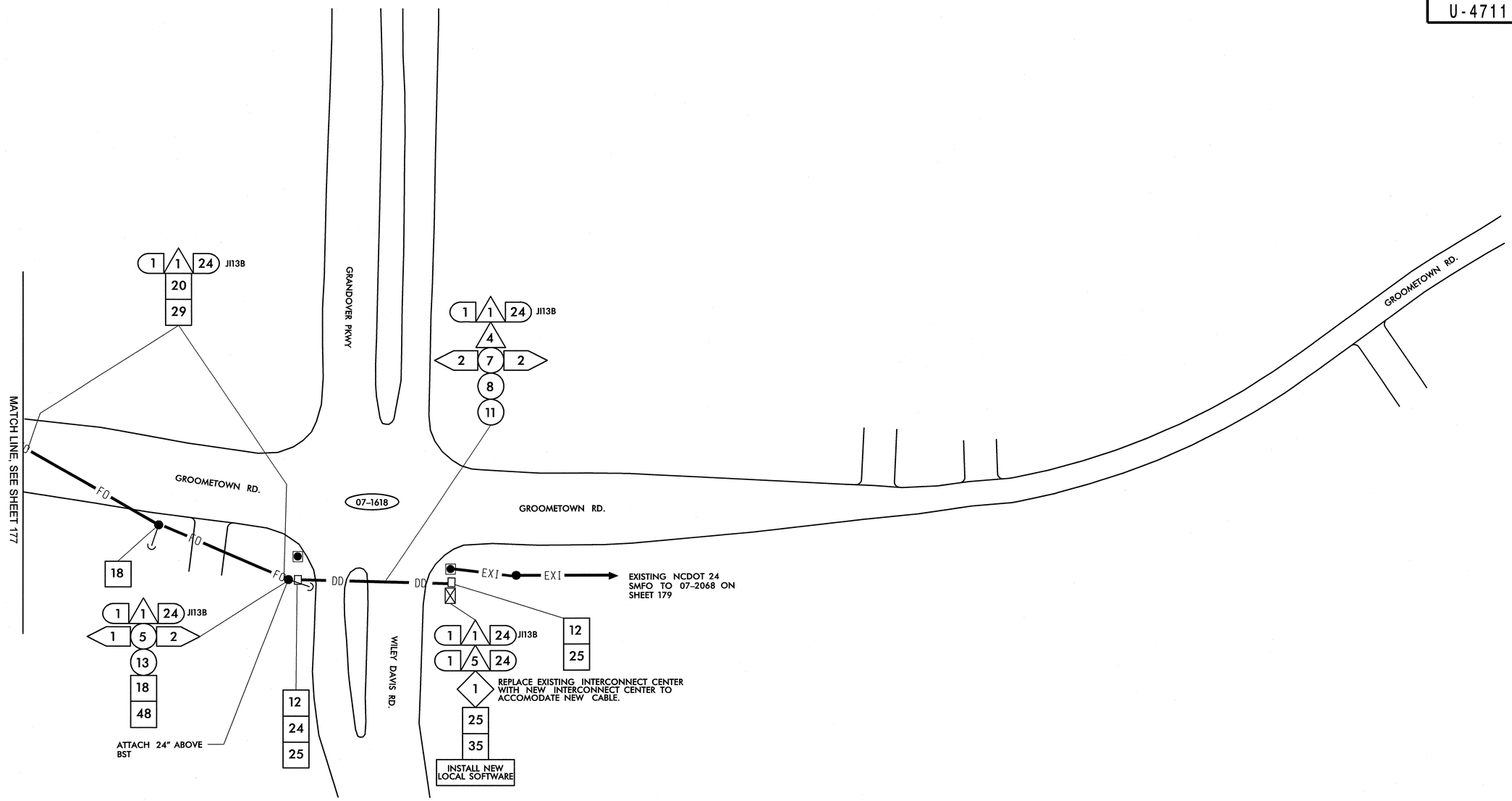
PROJECT REFERENCE NO.	SHEET NO.
U-4711	178



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2	INSTALL PLENUM RATED FIBER OPTIC CABLE
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1	TRENCH
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3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
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NOTE:
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PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
DIVISION OF HIGHWAYS
STATE OF VIRGINIA
Department of Transportation
759 Greenfield Pkwy, Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0178.dgn

2/20/2008
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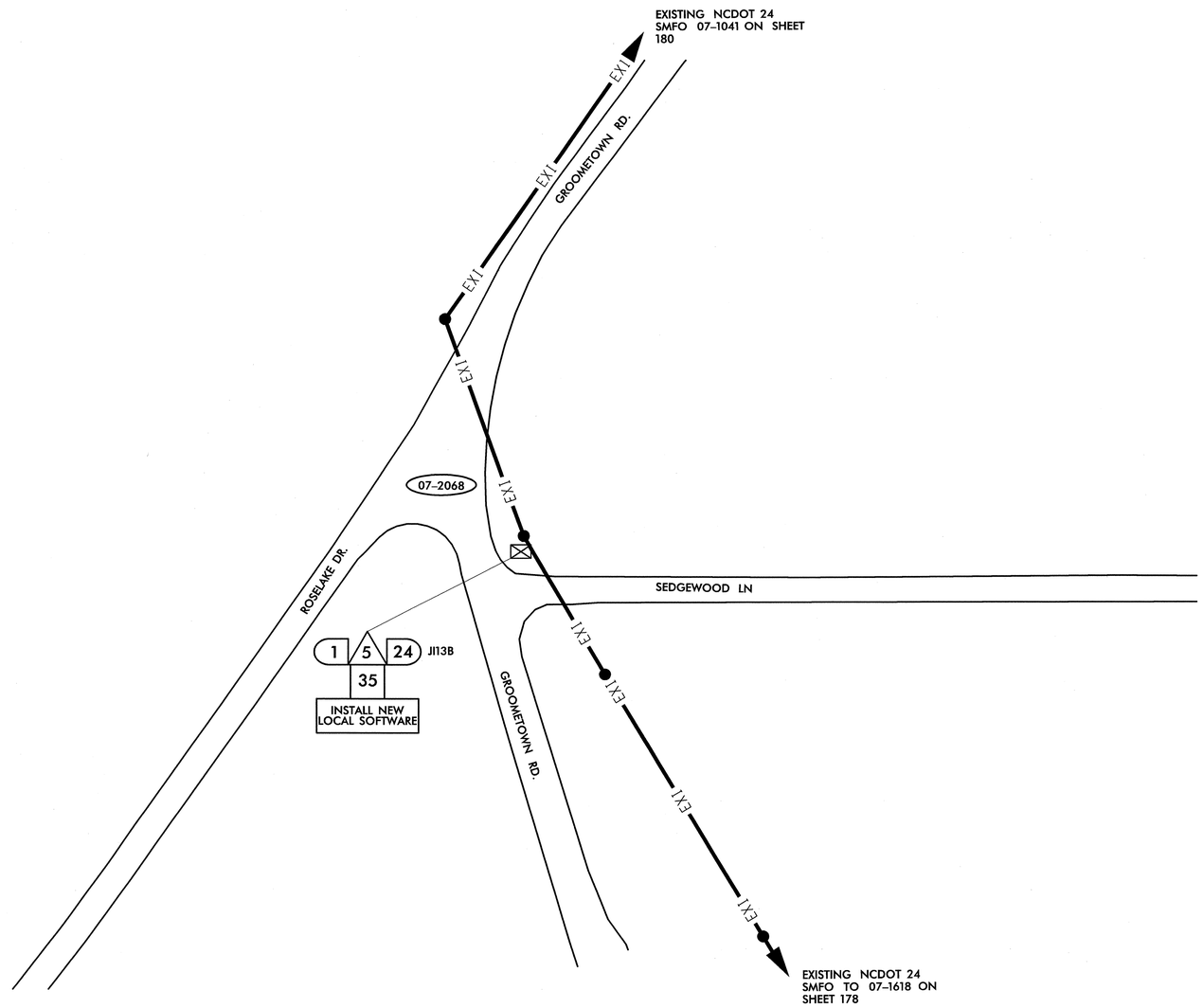
PROJECT REFERENCE NO.	SHEET NO.
U-4711	179



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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety System Branch
Transportation Management Unit
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE
0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008		REVIEWED BY: K.W. SMITH	
PREPARED BY: K.D. VANPATTEN		REVIEWED BY: M.W. DUNZO	
REVISIONS		INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0179.dgn

2/20/2008
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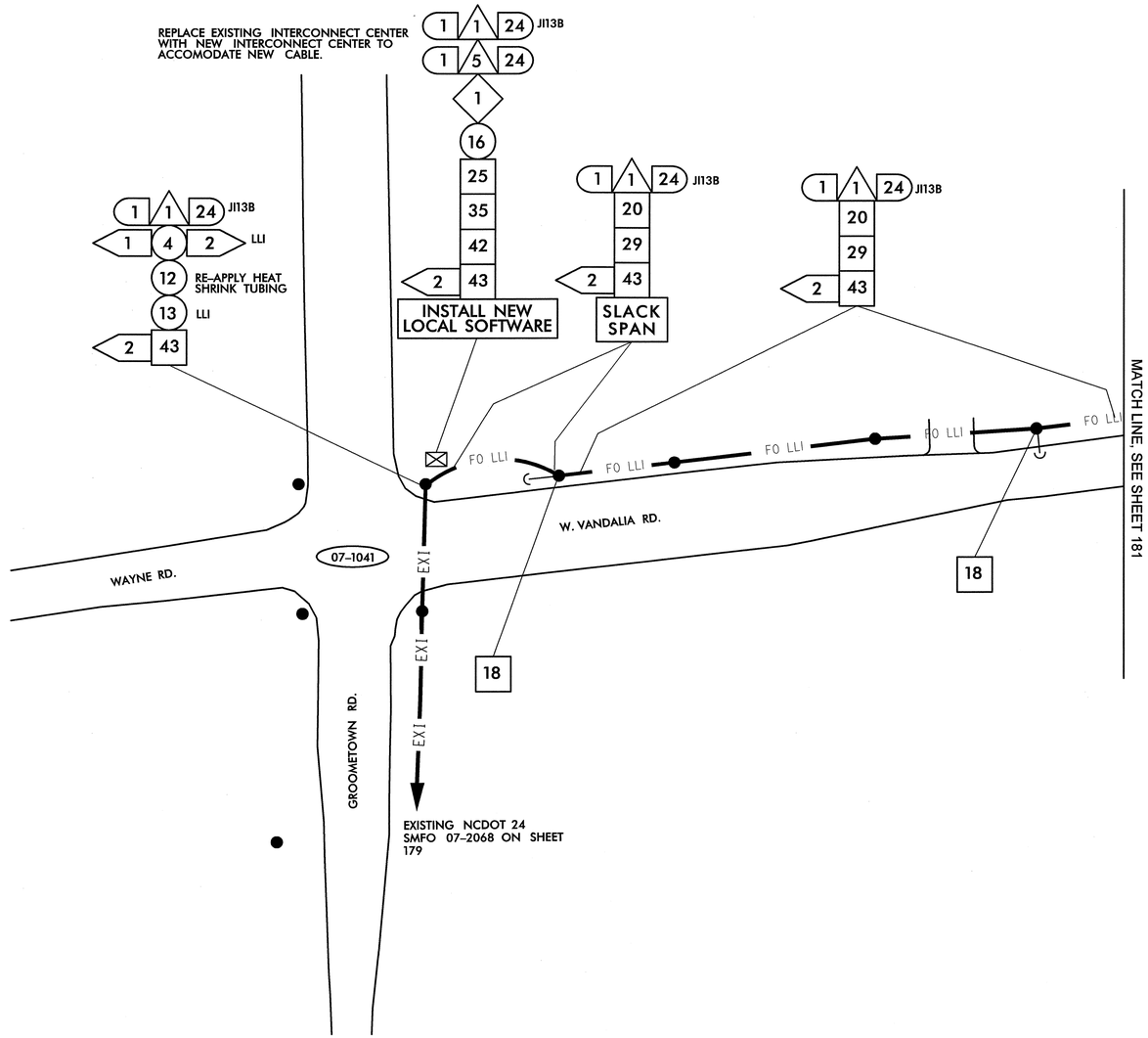
PROJECT REFERENCE NO.	SHEET NO.
U-4711	180



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Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

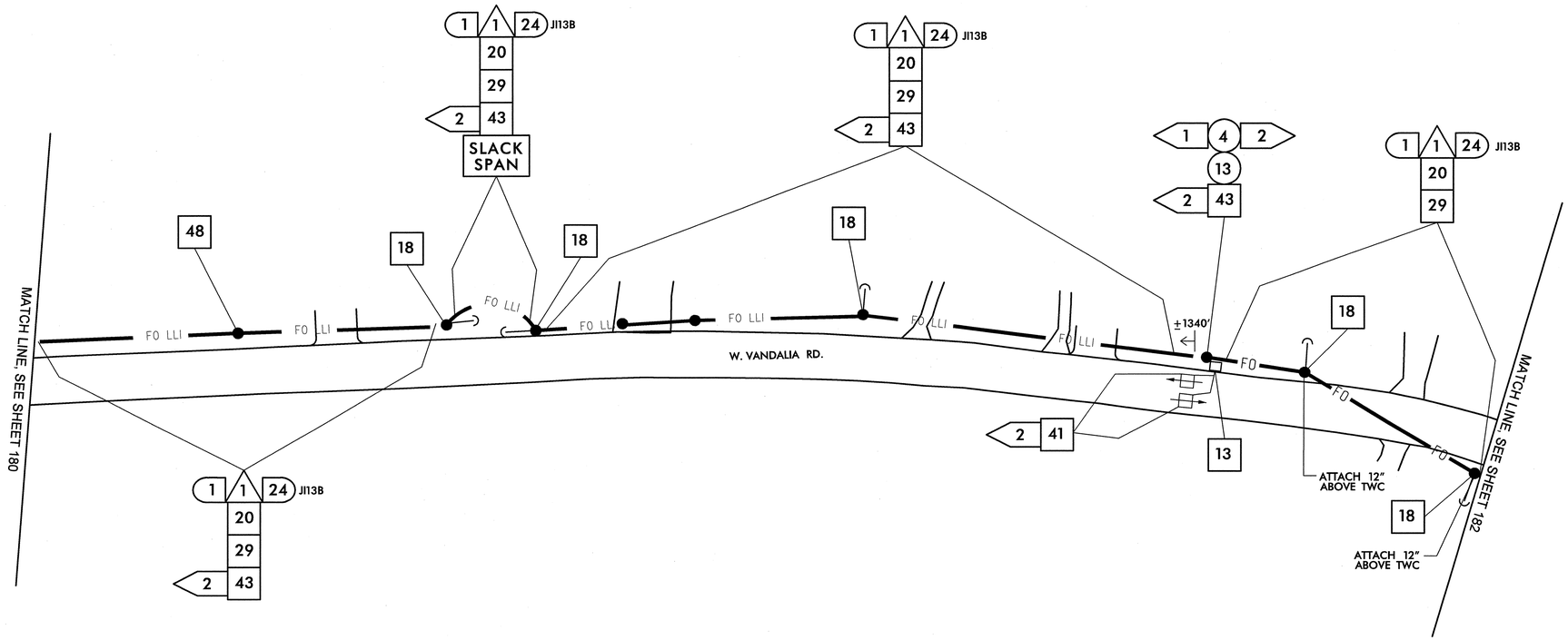
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/29/08 DATE

CADD Filename ...\Sht0180.dgn

2/29/2008
I:\systems\projects\0114620\20 (g-boro mls)\Sht0180.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	181



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6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

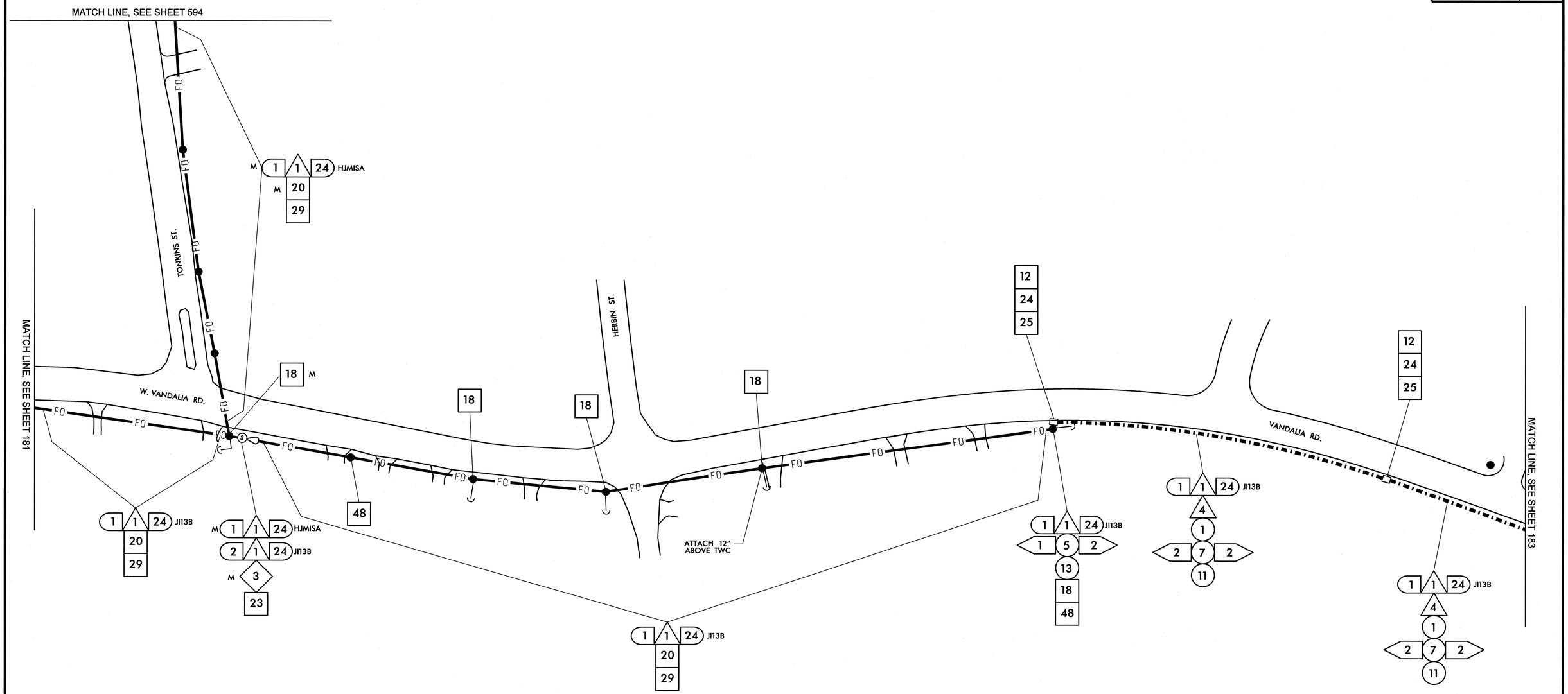
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/29/08

CADD Filename: ...\Sht0181.dgn

2/20/2008
f:\systems\proj\projects\01\462020 lg-boro mtsh\Sht0181.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	182



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
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52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Mobility & Safety Division
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename ...\Sht0182m.dgn

2/20/2008
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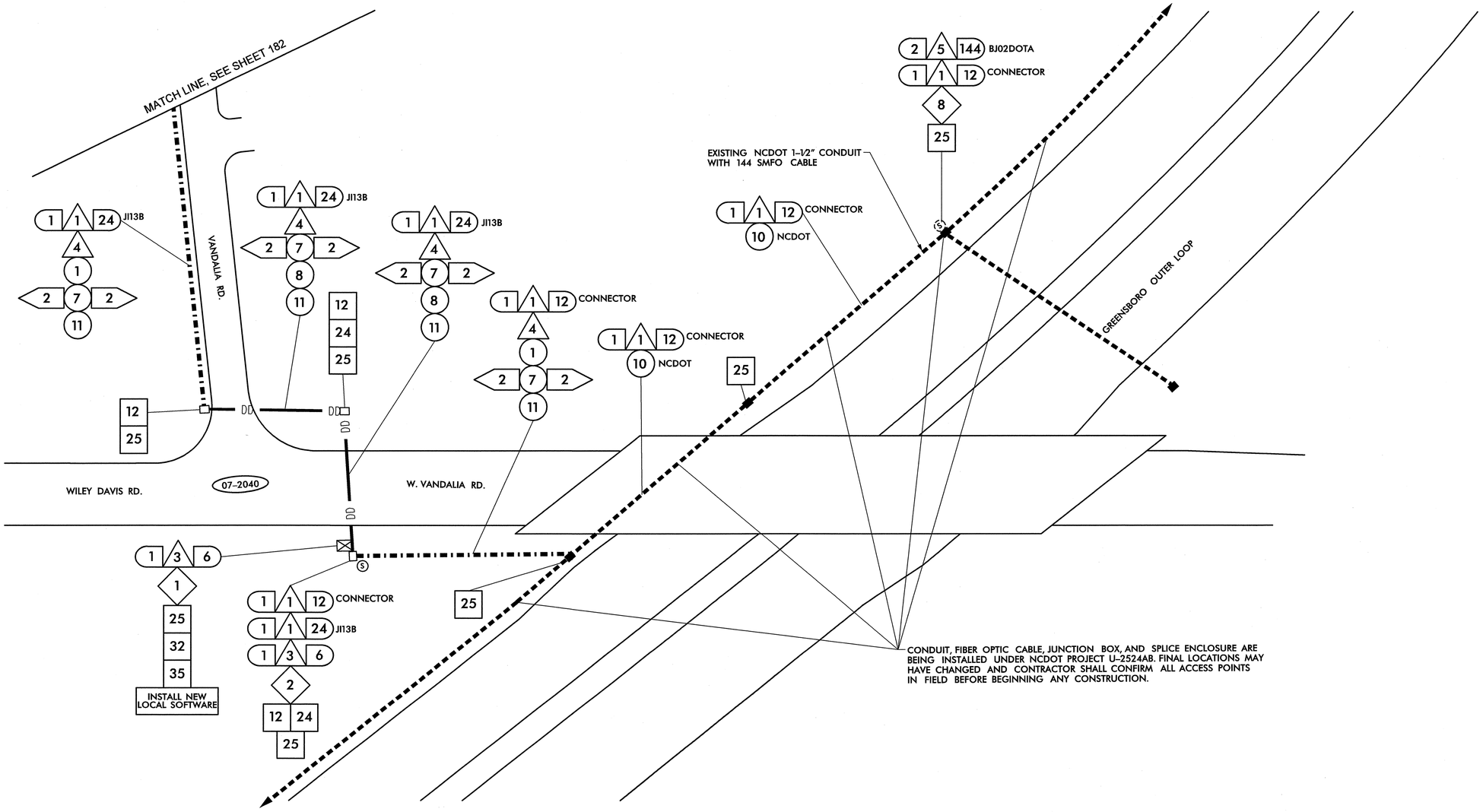
PROJECT REFERENCE NO.	SHEET NO.
U-4711	183



1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
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38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
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40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename ...\Sht0183.dgn

2/20/2008
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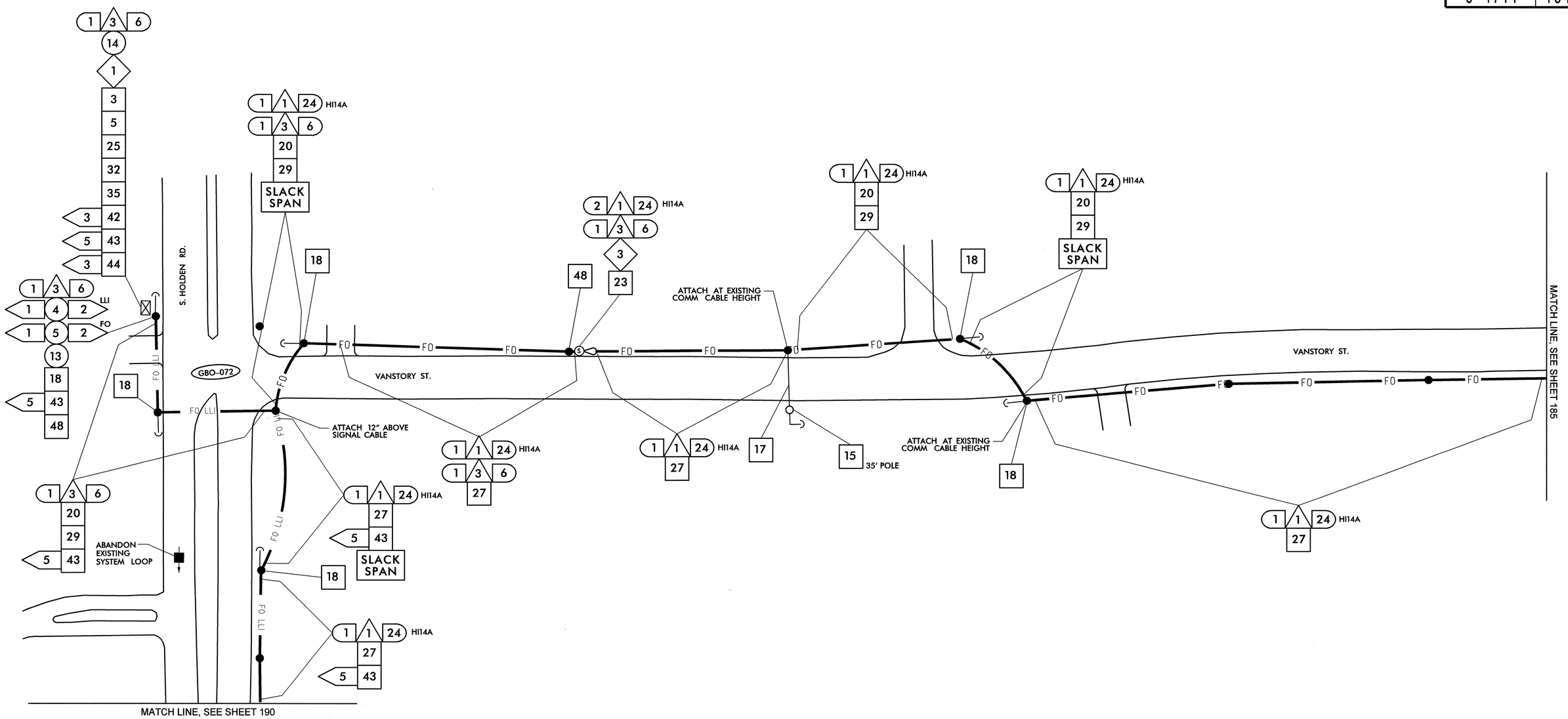
PROJECT REFERENCE NO.	SHEET NO.
U-4711	184



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
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8	DIRECTIONAL DRILL CONDUIT
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13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0184.dgn

2/20/2008
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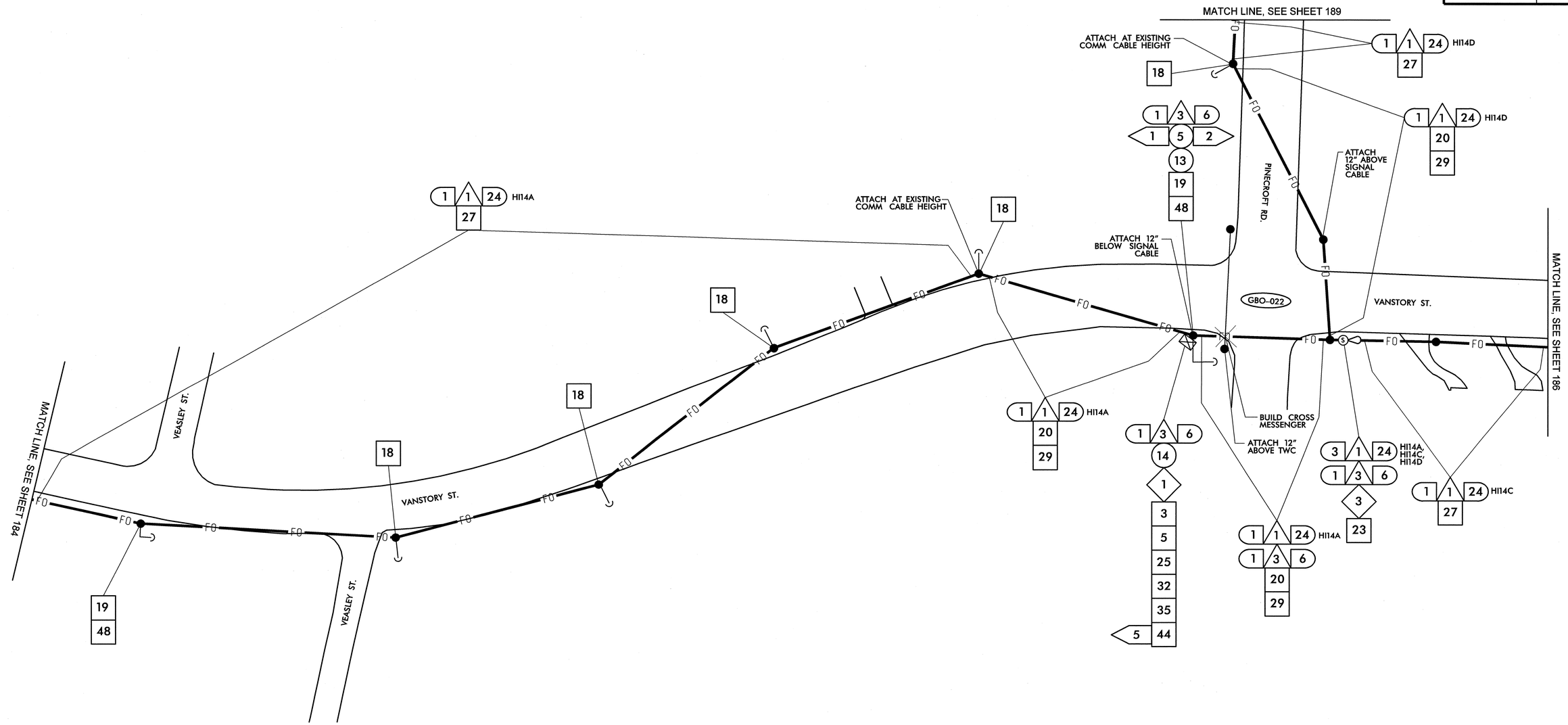
PROJECT REFERENCE NO.	SHEET NO.
U-4711	185



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25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/26/08

CADD Filename: ...\Sht0185.dgn

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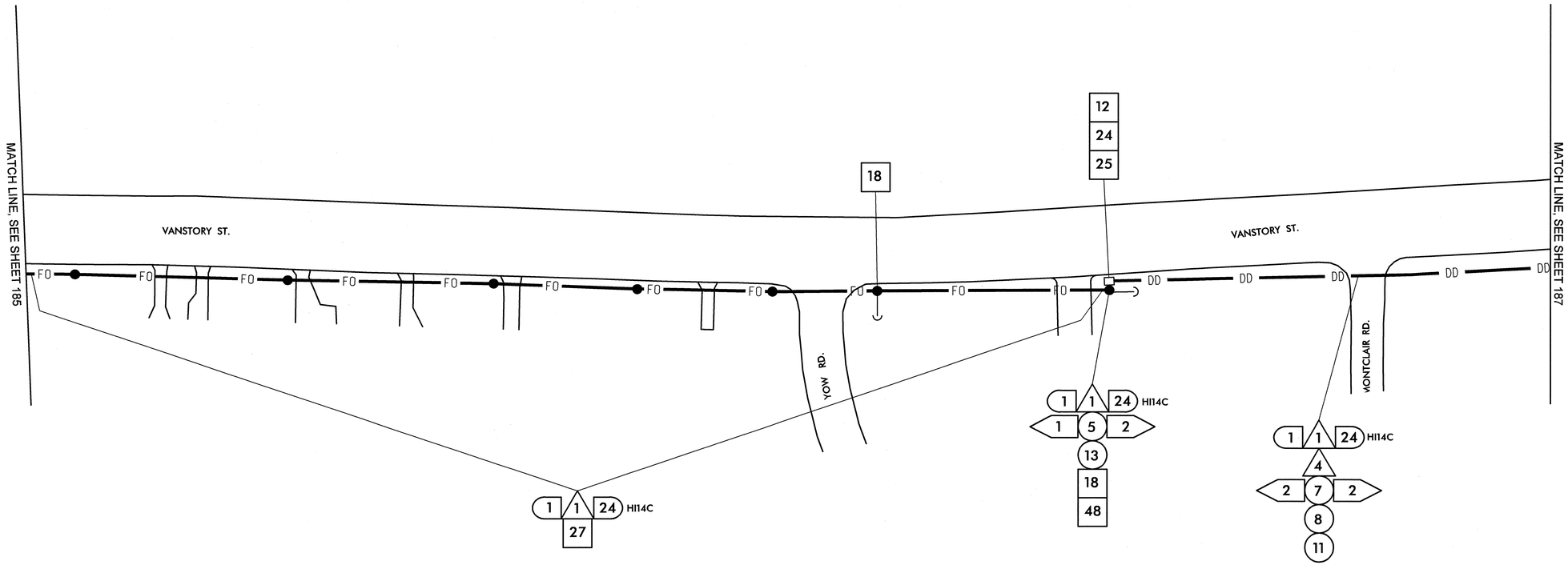
PROJECT REFERENCE NO.	SHEET NO.
U-4711	186



1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0186.dgn

2/20/2008
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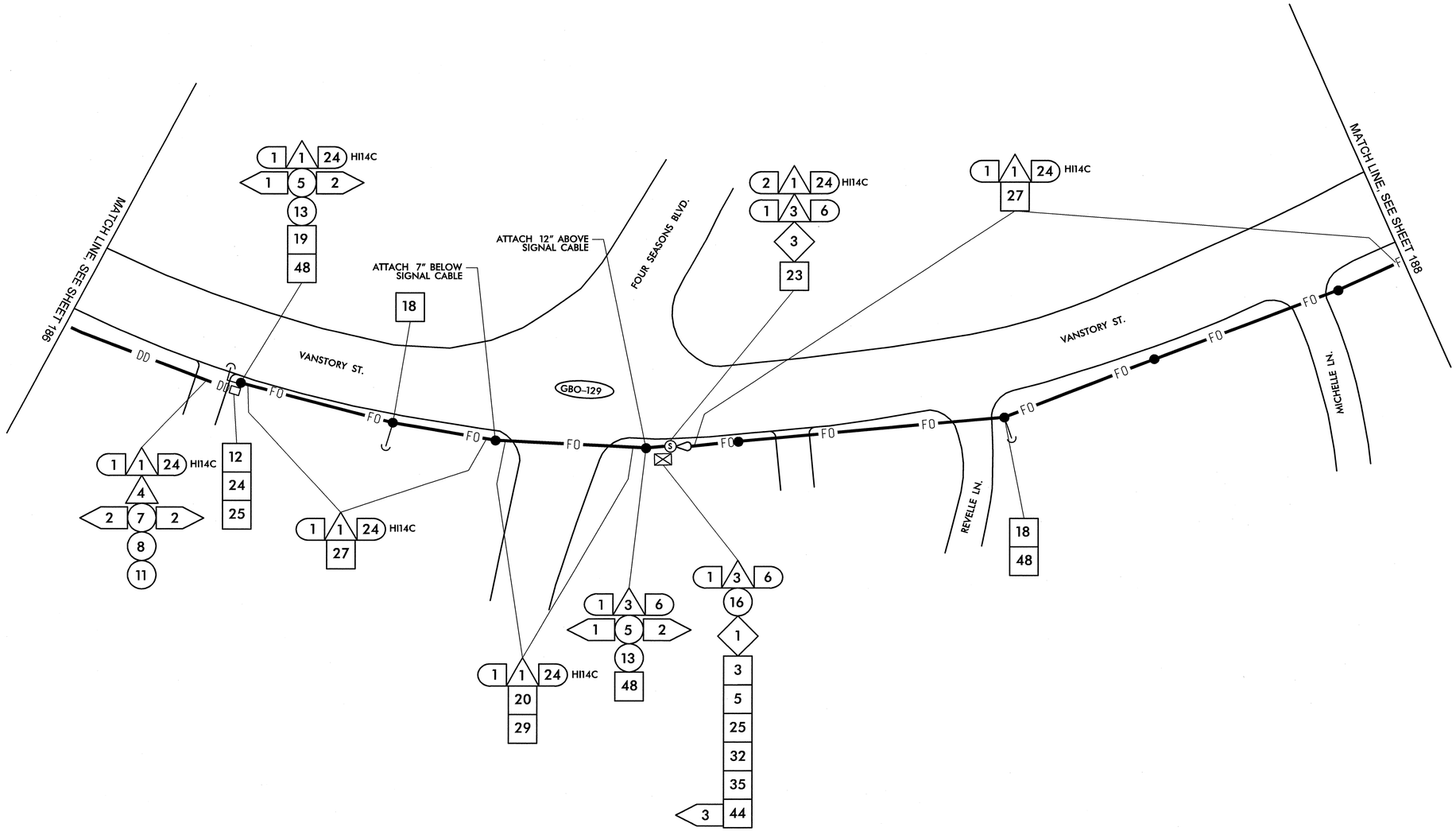
PROJECT REFERENCE NO.	SHEET NO.
U-4711	187



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE

26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
29	LASH CABLE(S) TO NEW MESSENGER CABLE	47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
30	INSTALL NEW ELECTRICAL SERVICE	48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
31	MODIFY EXISTING ELECTRICAL SERVICE	49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
32	INSTALL NEW CONTROLLER	50	INSTALL ANTENNA CABLE		
33	INSTALL EXISTING CABLE IN NEW CABINET	51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
34	INSTALL GENERATOR POWER INLET BOX	52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH				
36	INSTALL UNIFIED CABLE				
37	INSTALL POLE MOUNTED EQUIPMENT CABINET				
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA				
39	INSTALL OMNI-DIRECTIONAL ANTENNA				
40	INSTALL RADIO TRANSCEIVER				
41	INSTALL SYSTEM LOOP				
42	INSTALL SYSTEM LOOP AMPLIFIER				
43	INSTALL SYSTEM LOOP LEAD-IN CABLE				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
Division of Highways
State of North Carolina
Department of Transportation
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0187.dgn

2/20/2008
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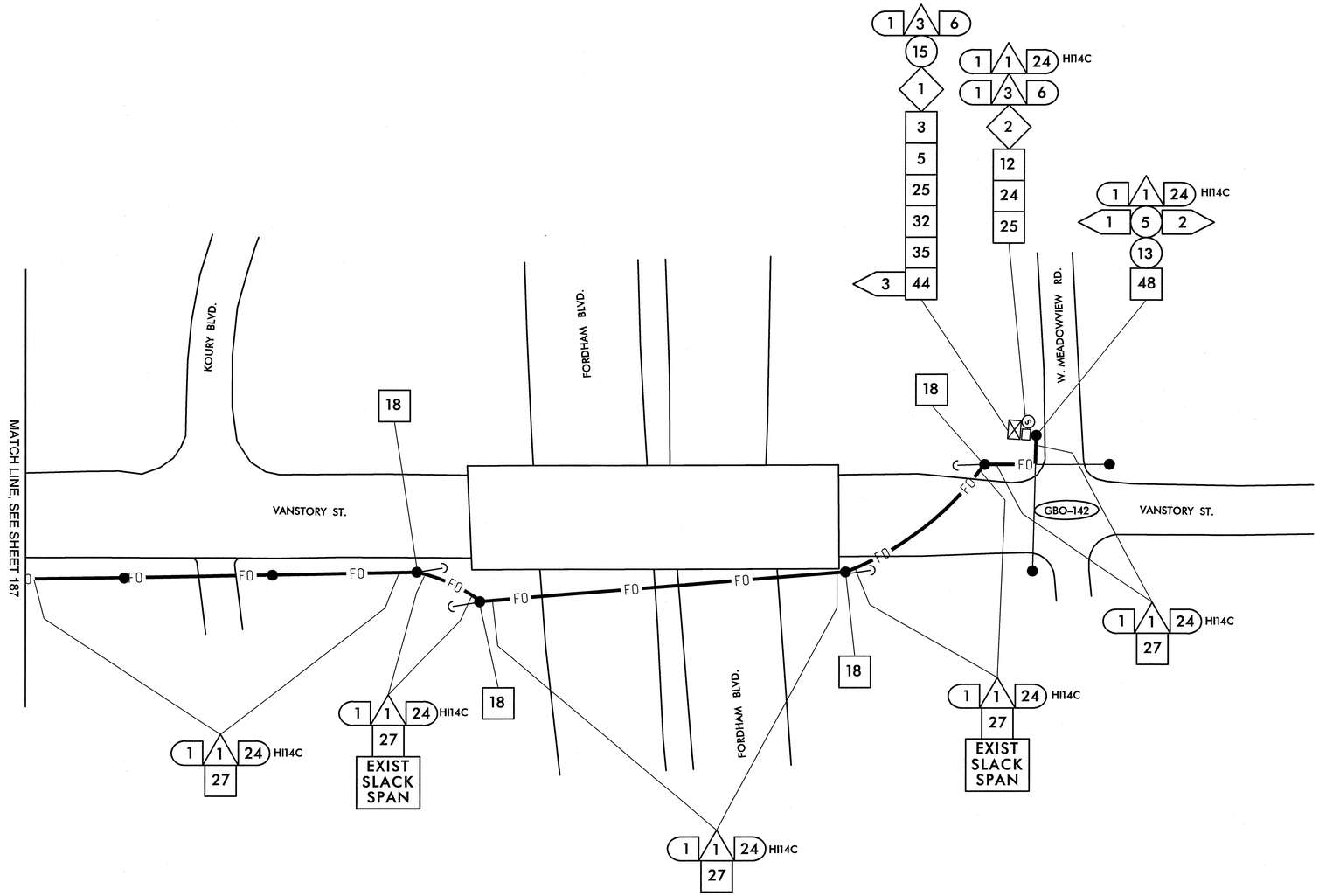
PROJECT REFERENCE NO.	SHEET NO.
U-4711	188



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
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14	REMOVE EXISTING JUNCTION BOX
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17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/26/08

CADD Filename: ...\Sht0188.dgn

2/20/2008
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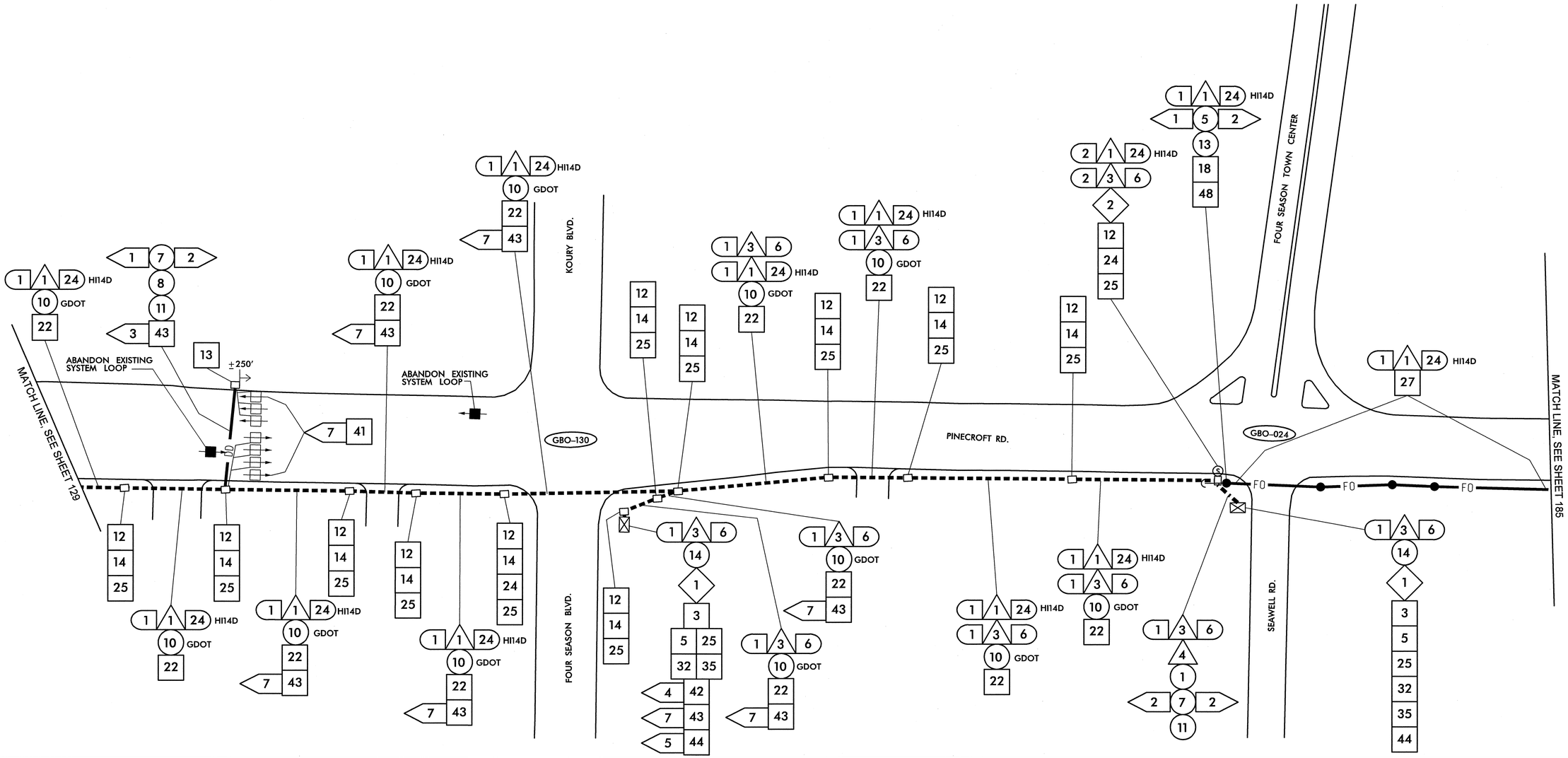
PROJECT REFERENCE NO.	SHEET NO.
U-4711	189



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51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0189.dgn

2/20/2008
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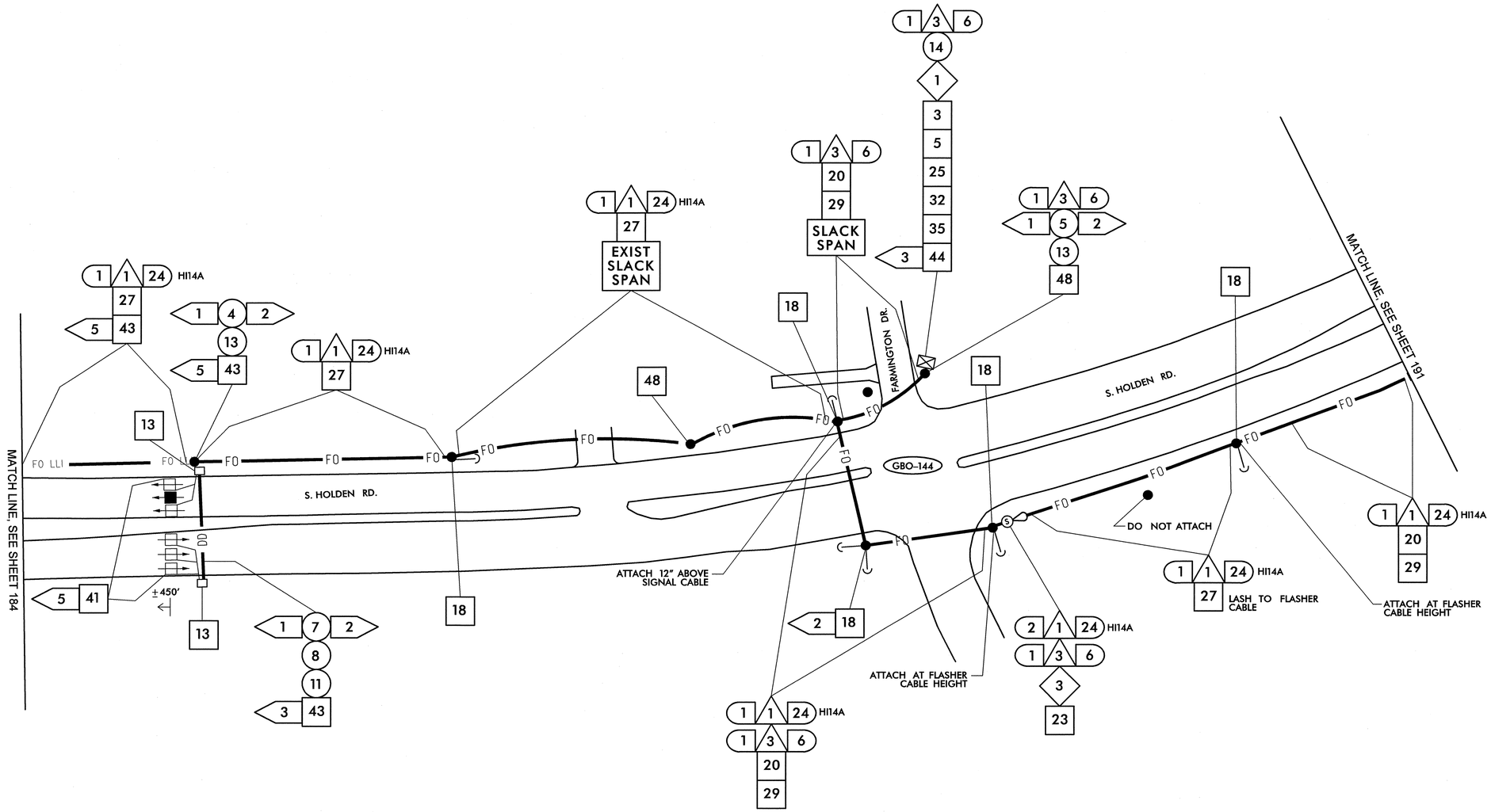
PROJECT REFERENCE NO.	SHEET NO.
U-4711	190



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
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20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sh+0190.dgn

2/20/2008
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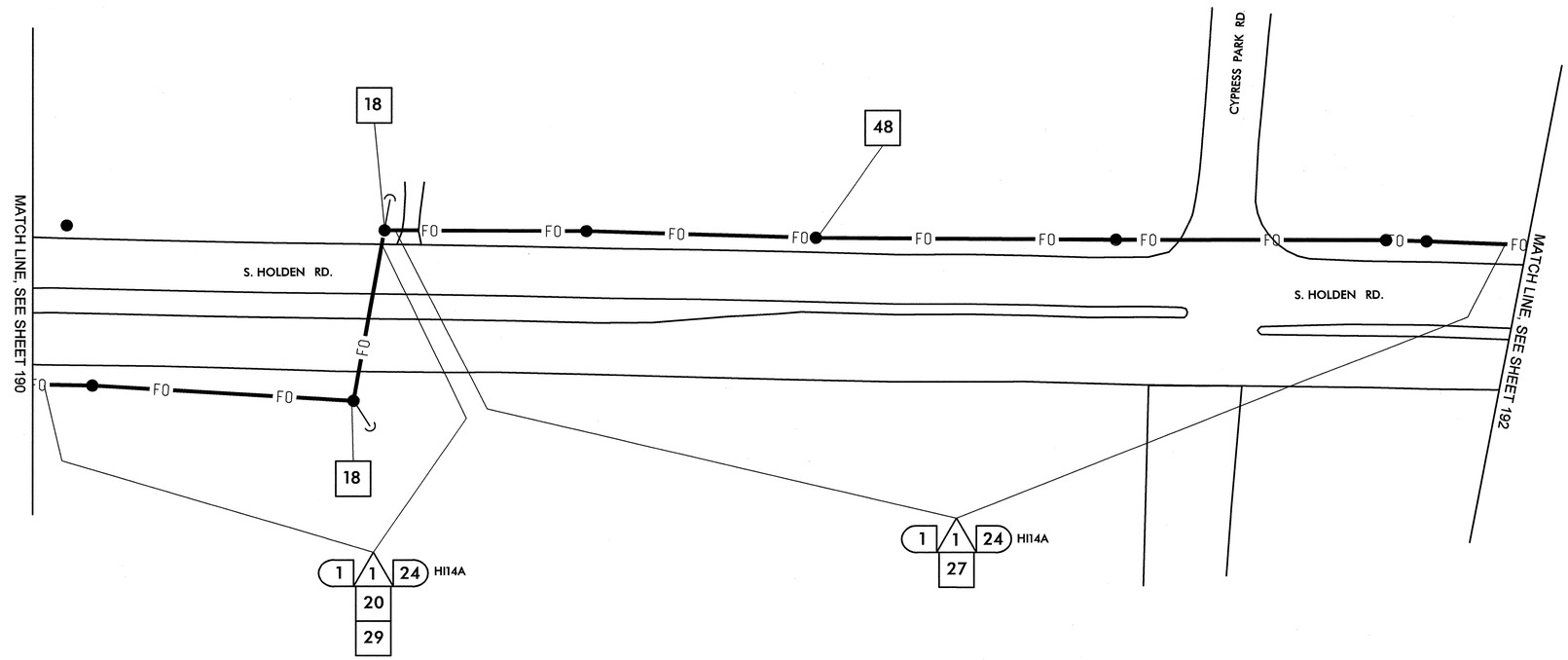
PROJECT REFERENCE NO.	SHEET NO.
U-4711	191



1 INSTALL SMFO CABLE	14 INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6 INSTALL NEW 336S CABINET	26 STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44 INSTALL LOCAL LOOP AMPLIFIER	53 INSTALL DSL ETHERNET SWITCH
2 INSTALL PLENUM RATED FIBER OPTIC CABLE	15 INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7 INSTALL CCTV CAMERA ASSEMBLY	27 LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45 INSTALL CITY WI-FI ANTENNA	54 INSTALL ETHERNET CABLE
3 INSTALL FIBER OPTIC DROP CABLE	16 INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8 INSTALL CCTV CAMERA WOOD POLE	28 LASH CABLE(S) TO EXISTING MESSENGER CABLE	46 INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55 INSTALL TERMINAL SERVER
4 INSTALL TRACER WIRE	17 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9 INSTALL CCTV METAL POLE AND FOUNDATION	29 LASH CABLE(S) TO NEW MESSENGER CABLE	47 INSTALL CODEC	56 INSTALL MICROWAVE VEHICLE DETECTOR
5 REUSE NCDOT SMFO CABLE	18 INSTALL NEW RISER INTO POLE MOUNTED CABINET	10 INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30 INSTALL NEW ELECTRICAL SERVICE	48 BOND MESSENGER CABLE TO POLE GROUND	57 INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
6 REUSE GDOT SMFO CABLE	19 REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11 INSTALL SPECIAL OVERSIZED JUNCTION BOX	31 MODIFY EXISTING ELECTRICAL SERVICE	49 INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58 INSTALL WIRELESS ACCESS POINT POWER CABLE
1 TRENCH	1 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12 INSTALL OVERSIZED JUNCTION BOX	32 INSTALL NEW CONTROLLER	50 INSTALL ANTENNA CABLE	
2 INSTALL PVC CONDUIT	2 INSTALL UNDERGROUND SPLICE ENCLOSURE	13 INSTALL STANDARD JUNCTION BOX	33 INSTALL EXISTING CABLE IN NEW CABINET	51 RECONNECT RAILROAD PREEMPTION EQUIPMENT	
3 INSTALL RIGID, GALVANIZED STEEL CONDUIT	3 INSTALL AERIAL SPLICE ENCLOSURE	14 REMOVE EXISTING JUNCTION BOX	34 INSTALL GENERATOR POWER INLET BOX	52 RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT	
4 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4 INSTALL POLE MOUNTED SPLICE CABINET	15 INSTALL WOOD POLE	35 INSTALL LOCAL GIGABIT ETHERNET SWITCH		
5 INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5 INSTALL BASE MOUNTED SPLICE CABINET	16 REMOVE EXISTING WOOD POLE	36 INSTALL UNIFIED CABLE		
6 INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6 REMOVE EXISTING SPLICE CABINET	17 INSTALL AERIAL GUY ASSEMBLY	37 INSTALL POLE MOUNTED EQUIPMENT CABINET		
7 INSTALL POLYETHYLENE CONDUIT	7 INSTALL TERMINAL SPLICE BOX	18 INSTALL STANDARD GUY ASSEMBLY	38 INSTALL UNI-DIRECTIONAL YAGI ANTENNA		
8 DIRECTIONAL DRILL CONDUIT	8 MODIFY EXISTING SPLICE ENCLOSURE	19 INSTALL SIDEWALK GUY ASSEMBLY	39 INSTALL OMNI-DIRECTIONAL ANTENNA		
9 BORE AND JACK CONDUIT	1 INSTALL CABINET FOUNDATION	20 INSTALL MESSENGER CABLE	40 INSTALL RADIO TRANSCEIVER		
10 INSTALL CABLE(S) IN EXISTING CONDUIT	2 REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41 INSTALL SYSTEM LOOP		
11 INSTALL CABLE(S) IN NEW CONDUIT	3 MODIFY EXISTING CABINET FOUNDATION	22 REMOVE EXISTING COMMUNICATIONS CABLE	42 INSTALL SYSTEM LOOP AMPLIFIER		
12 INSTALL CABLE(S) IN EXISTING RISER	4 INSTALL NEW 333 COMMUNICATION CABINET	23 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43 INSTALL SYSTEM LOOP LEAD-IN CABLE		
13 INSTALL CABLE(S) IN NEW RISER	5 INSTALL NEW 332 BASE MOUNTED CABINET	24 INSTALL DELINEATOR MARKER			
		25 STORE 30 FEET OF EACH COMMUNICATIONS CABLE			

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
TRANSPORTATION MANAGEMENT & ADVANCED TECHNOLOGY
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

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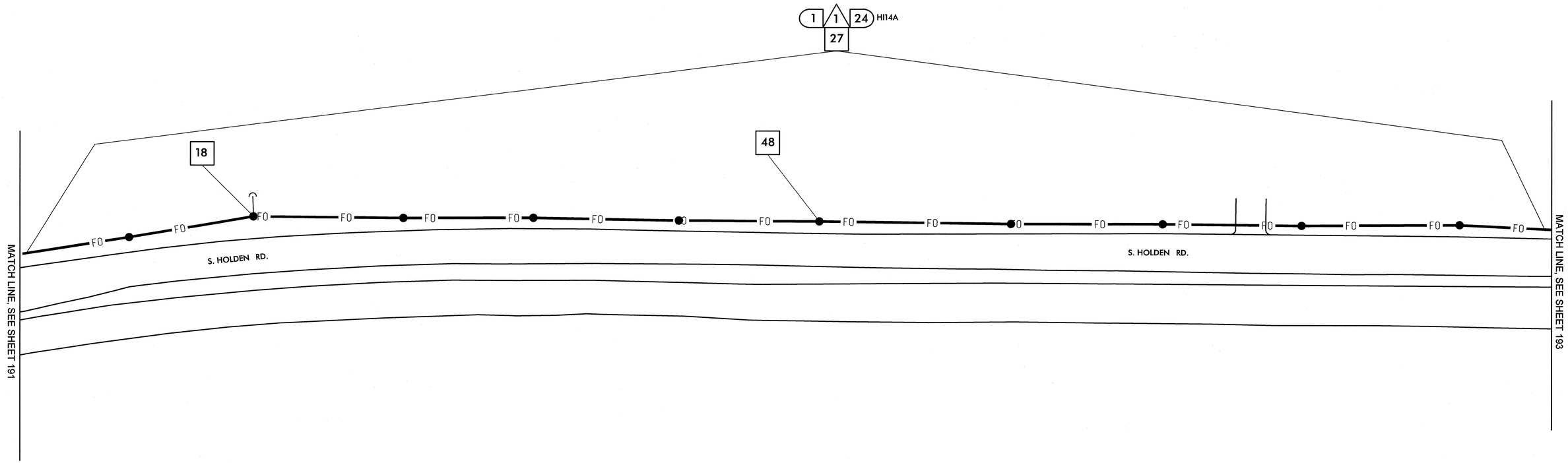
PROJECT REFERENCE NO.	SHEET NO.
U-4711	192



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2	INSTALL PLENUM RATED FIBER OPTIC CABLE
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7	INSTALL CCTV CAMERA ASSEMBLY
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23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
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25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

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SIGNATURE 2/20/08 DATE

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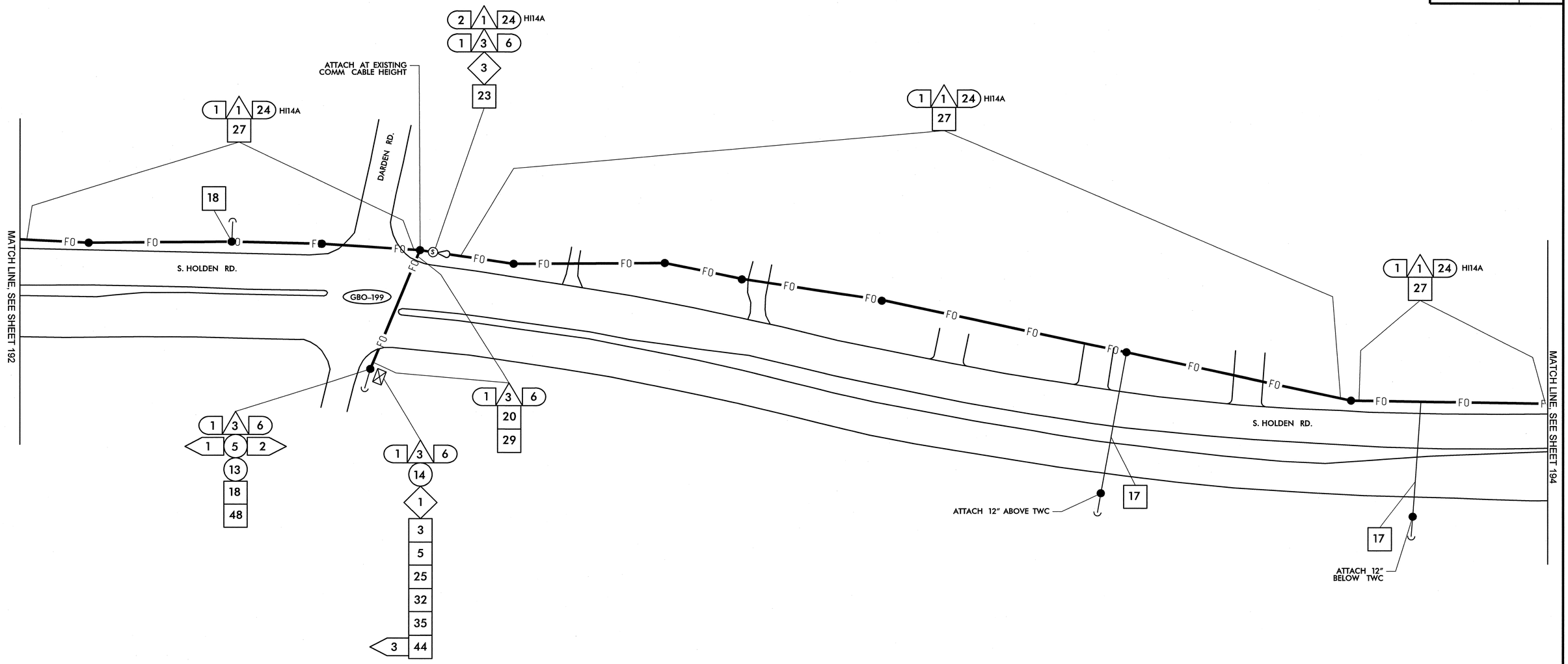
PROJECT REFERENCE NO.	SHEET NO.
U-4711	193



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DIVISION 7 GUILFORD COUNTY

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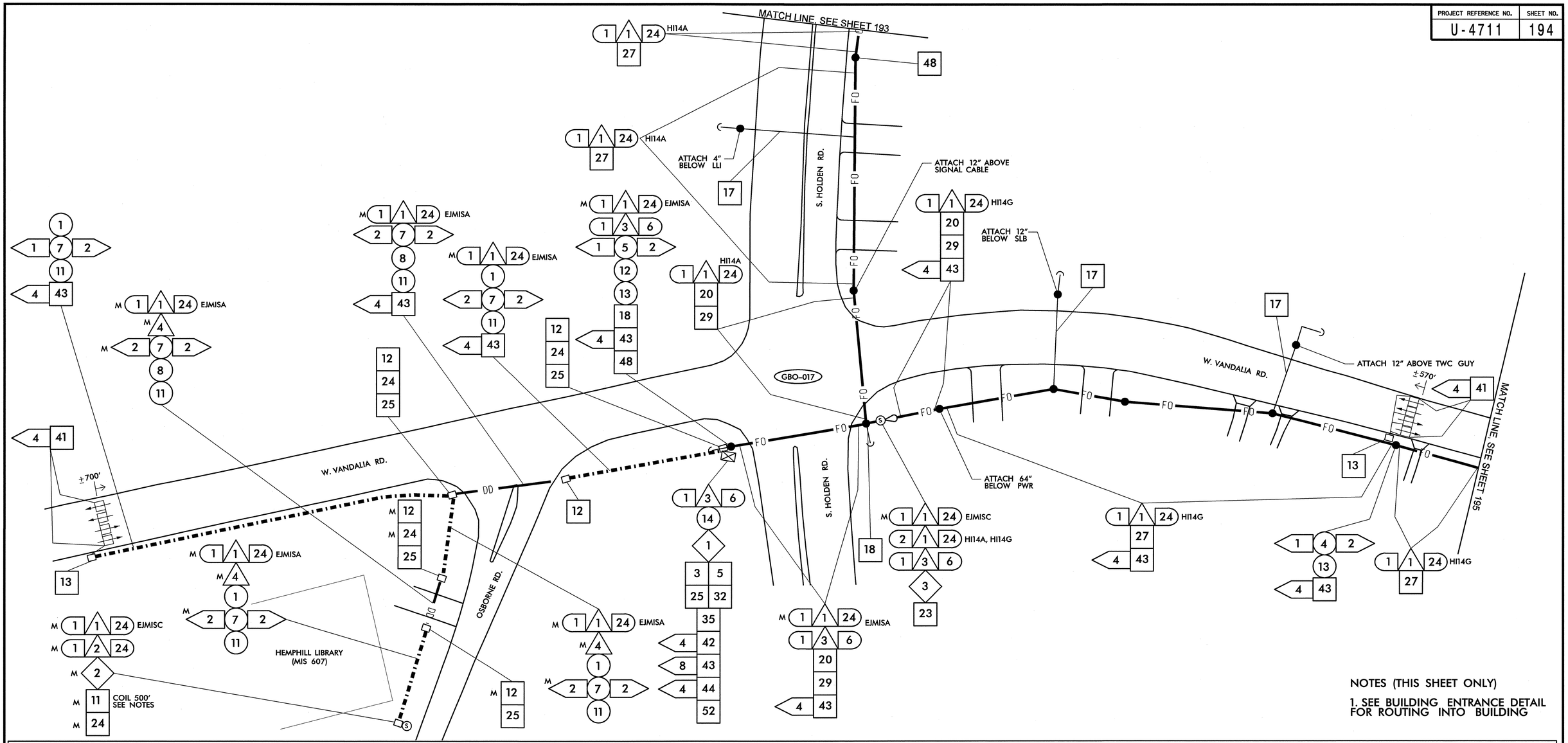
PROJECT REFERENCE NO.	SHEET NO.
U-4711	194



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
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14. REMOVE EXISTING JUNCTION BOX
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19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
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23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
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29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
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36. INSTALL UNIFIED CABLE
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41. INSTALL SYSTEM LOOP
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43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
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55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

SCALE 0 50

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0194m.dgn

2/20/2008
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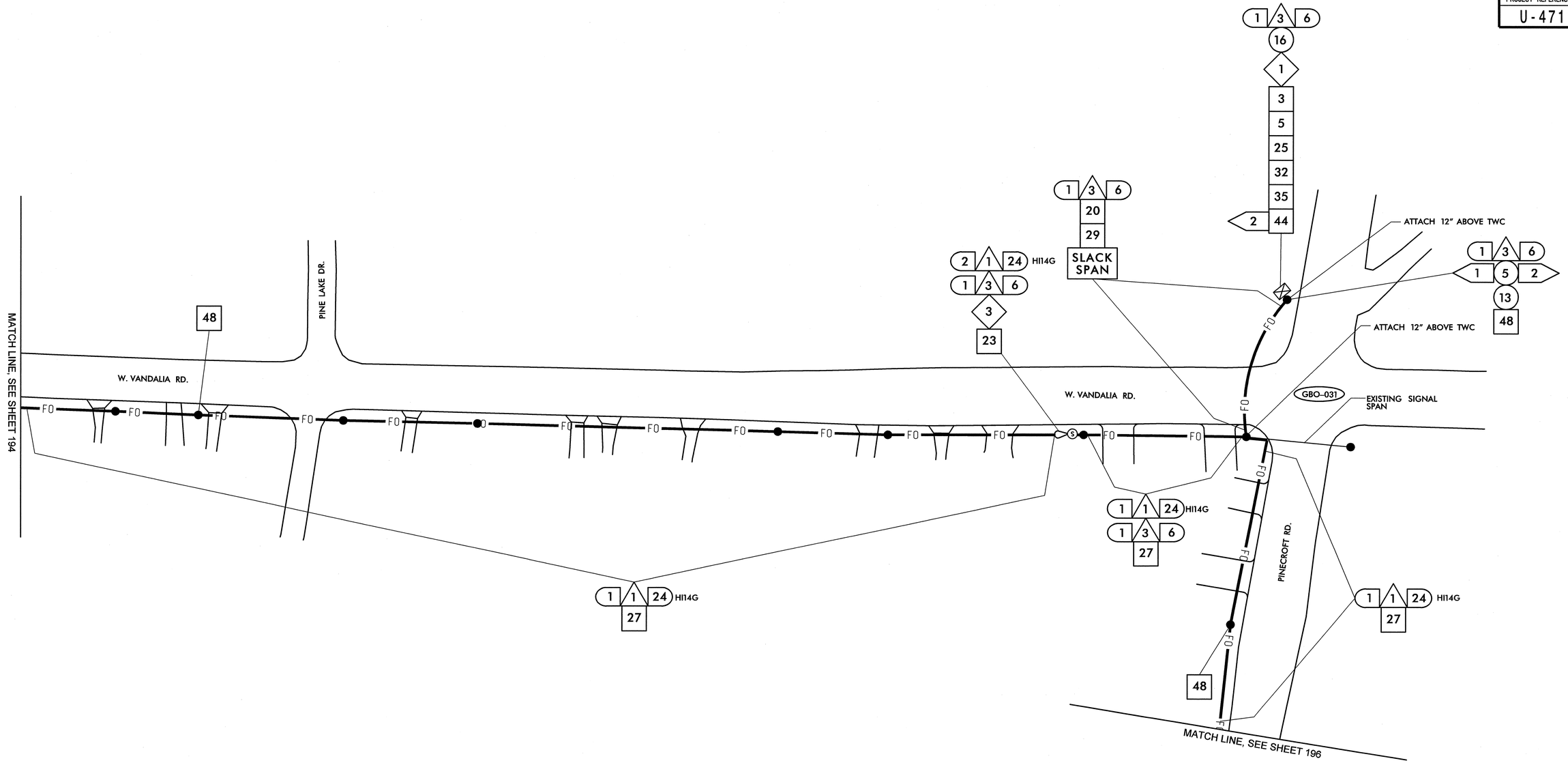
PROJECT REFERENCE NO.	SHEET NO.
U-4711	195



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NOTE:
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PLANS PREPARED IN THE OFFICE OF:
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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

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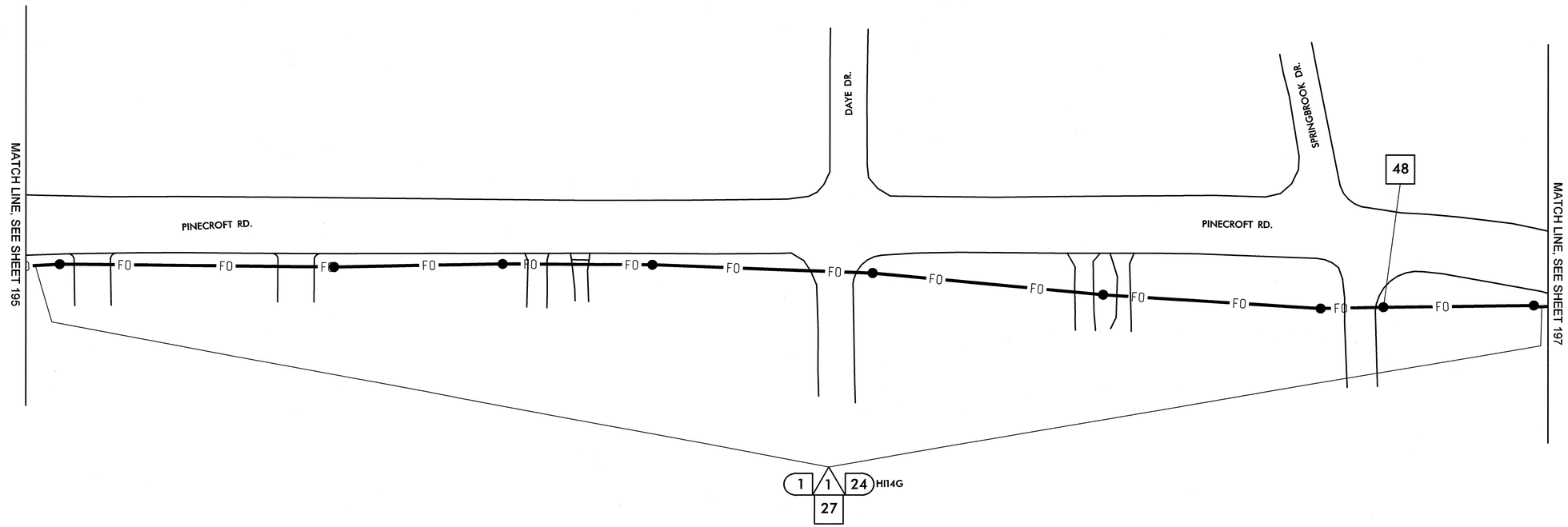
PROJECT REFERENCE NO.	SHEET NO.
U-4711	196



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NOTE:
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PLANS PREPARED IN THE OFFICE OF:
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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE 2/20/08 DATE

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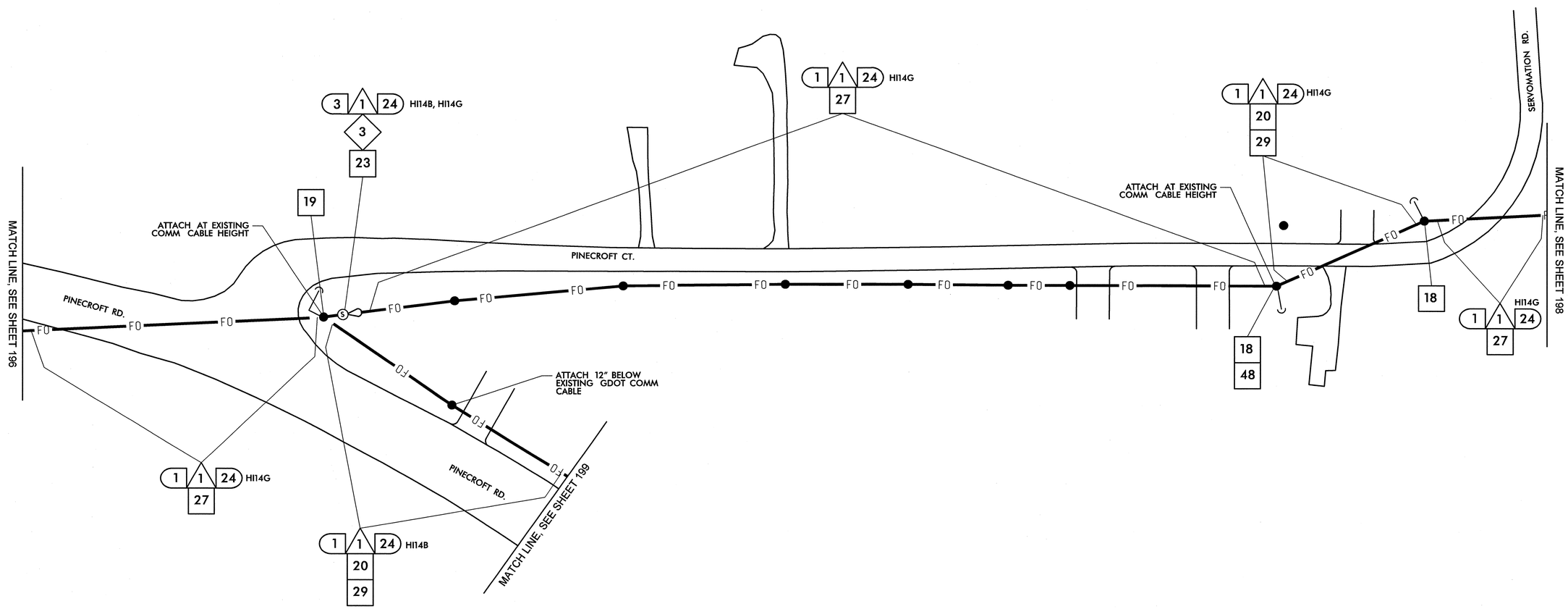
PROJECT REFERENCE NO.	SHEET NO.
U-4711	197



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Traffic Engineering and Safety Systems Branch
Transportation Management Unit
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
Department of Transportation
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
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SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0197.dgn

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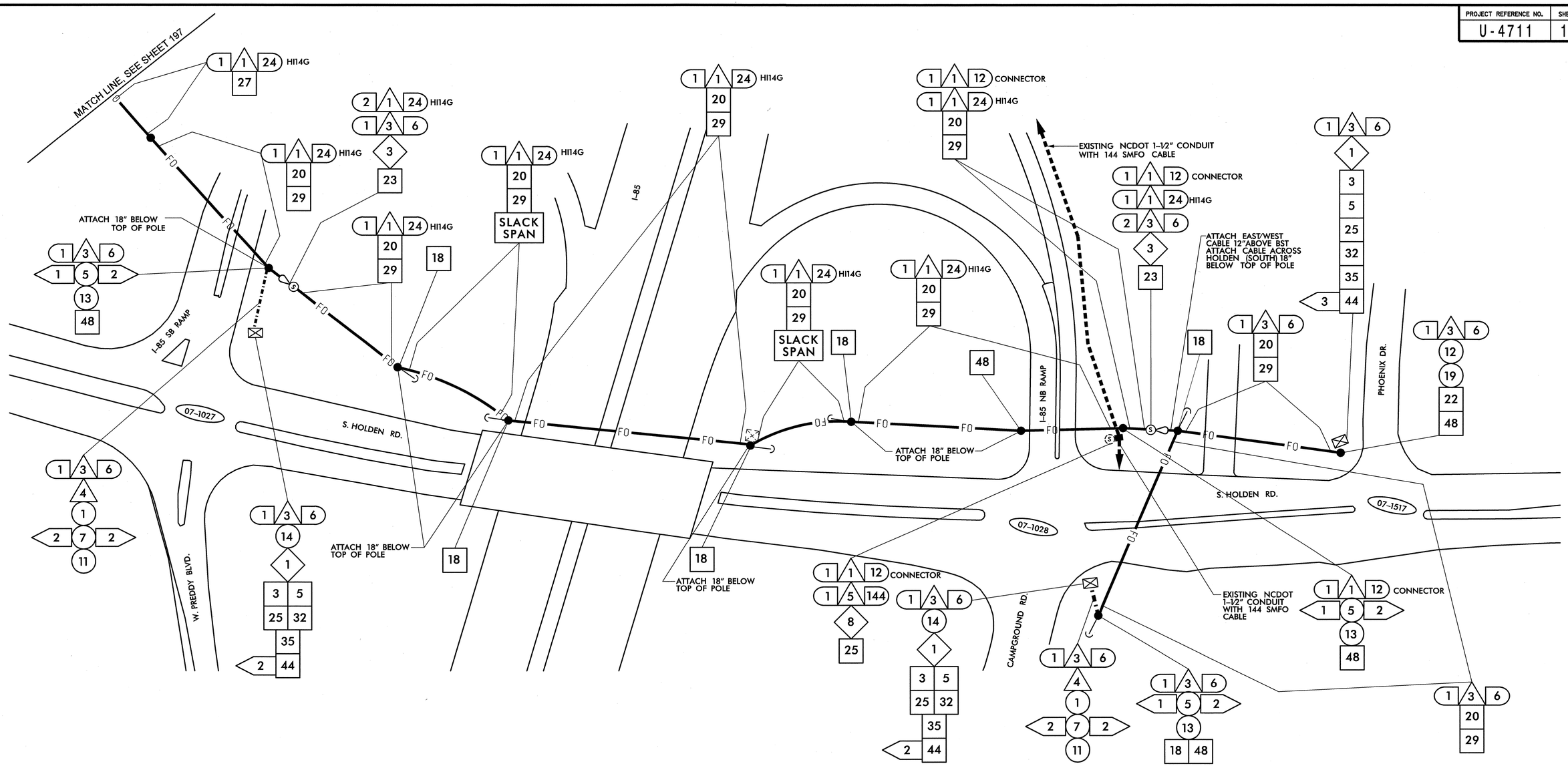

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sh1 0198.dgn

2/20/2008
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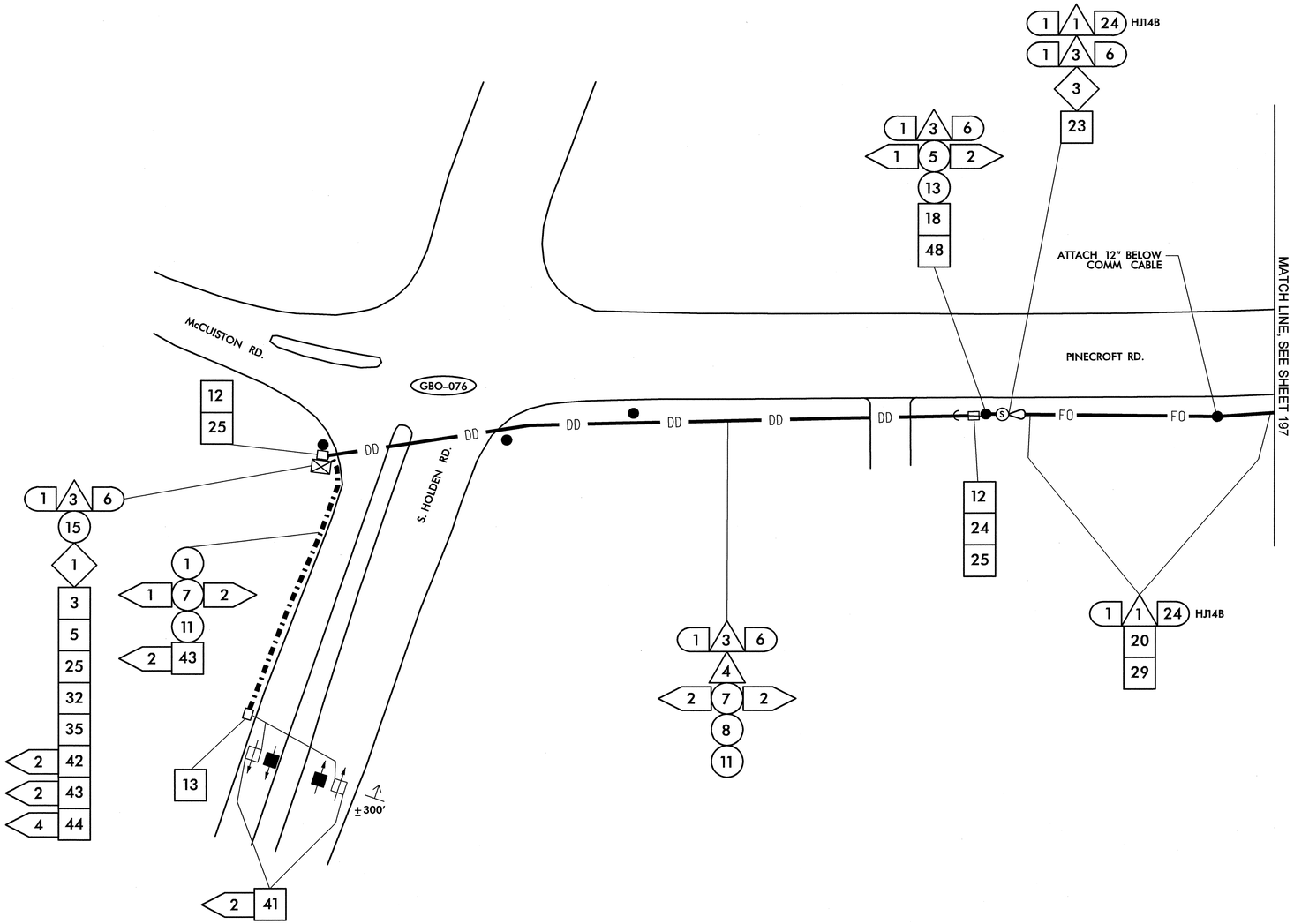
PROJECT REFERENCE NO.	SHEET NO.
U-4711	199



1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transport Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0199.dgn

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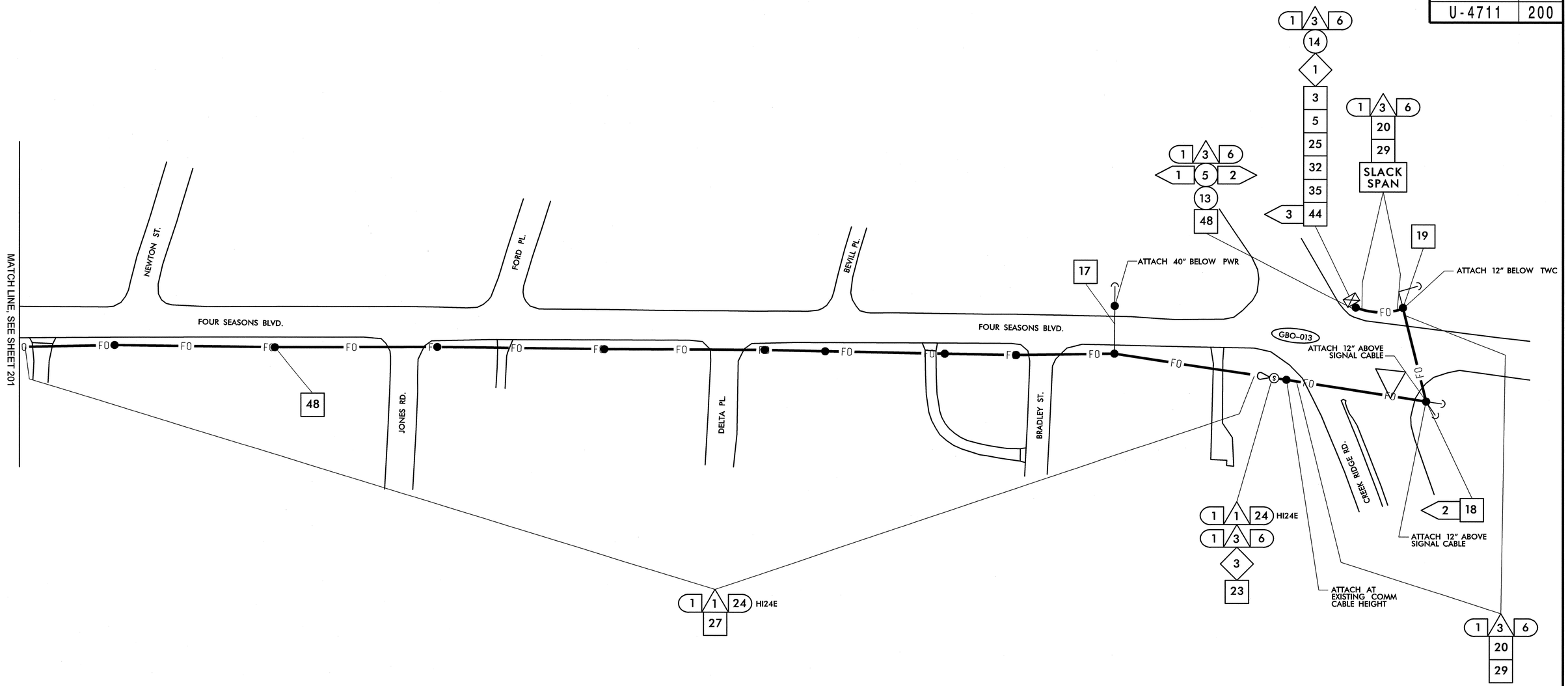
PROJECT REFERENCE NO.	SHEET NO.
U-4711	200



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename ...\Sht0200.dgn

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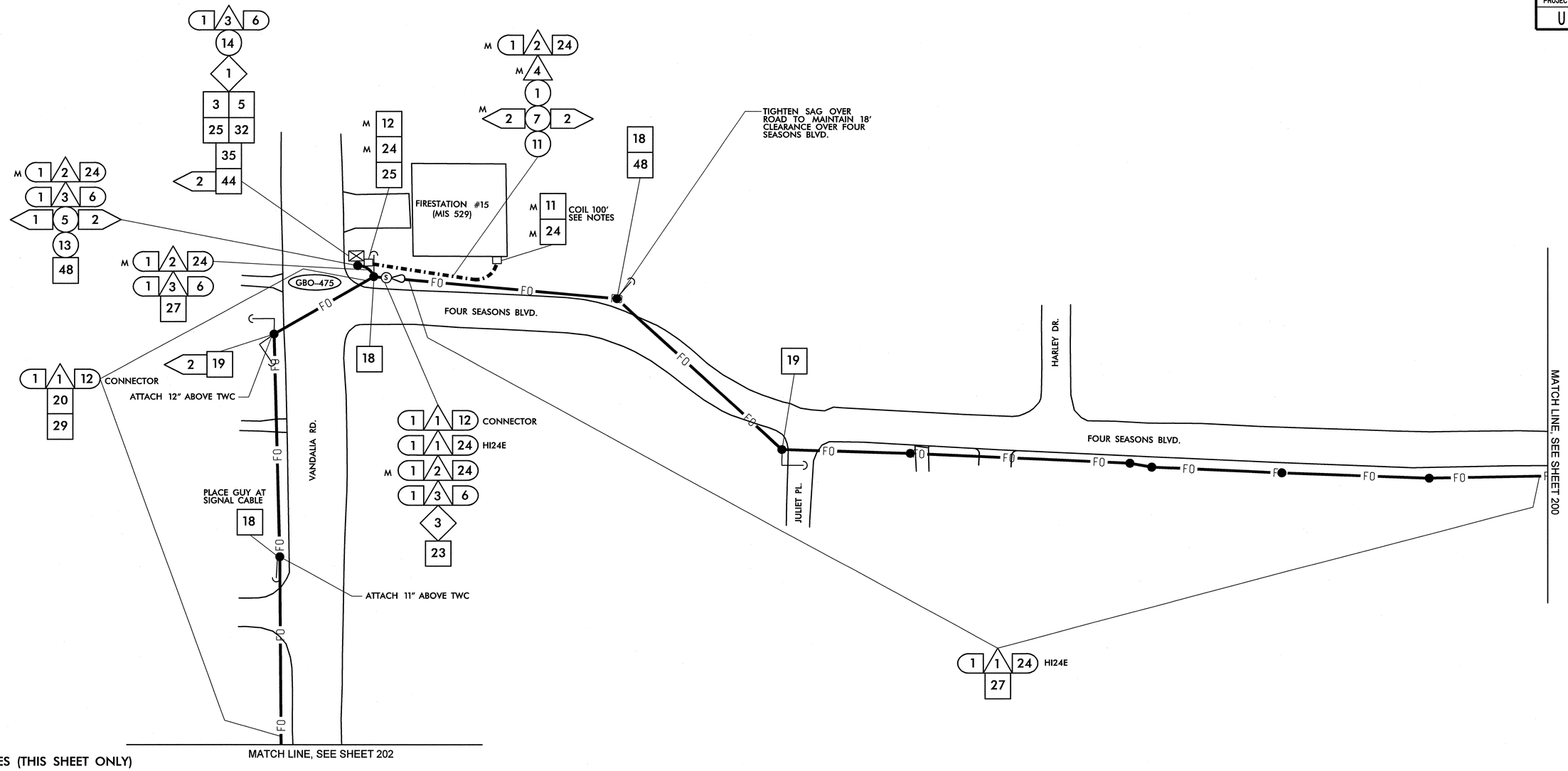
PROJECT REFERENCE NO.	SHEET NO.
U-4711	201



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
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3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht020la.dgn

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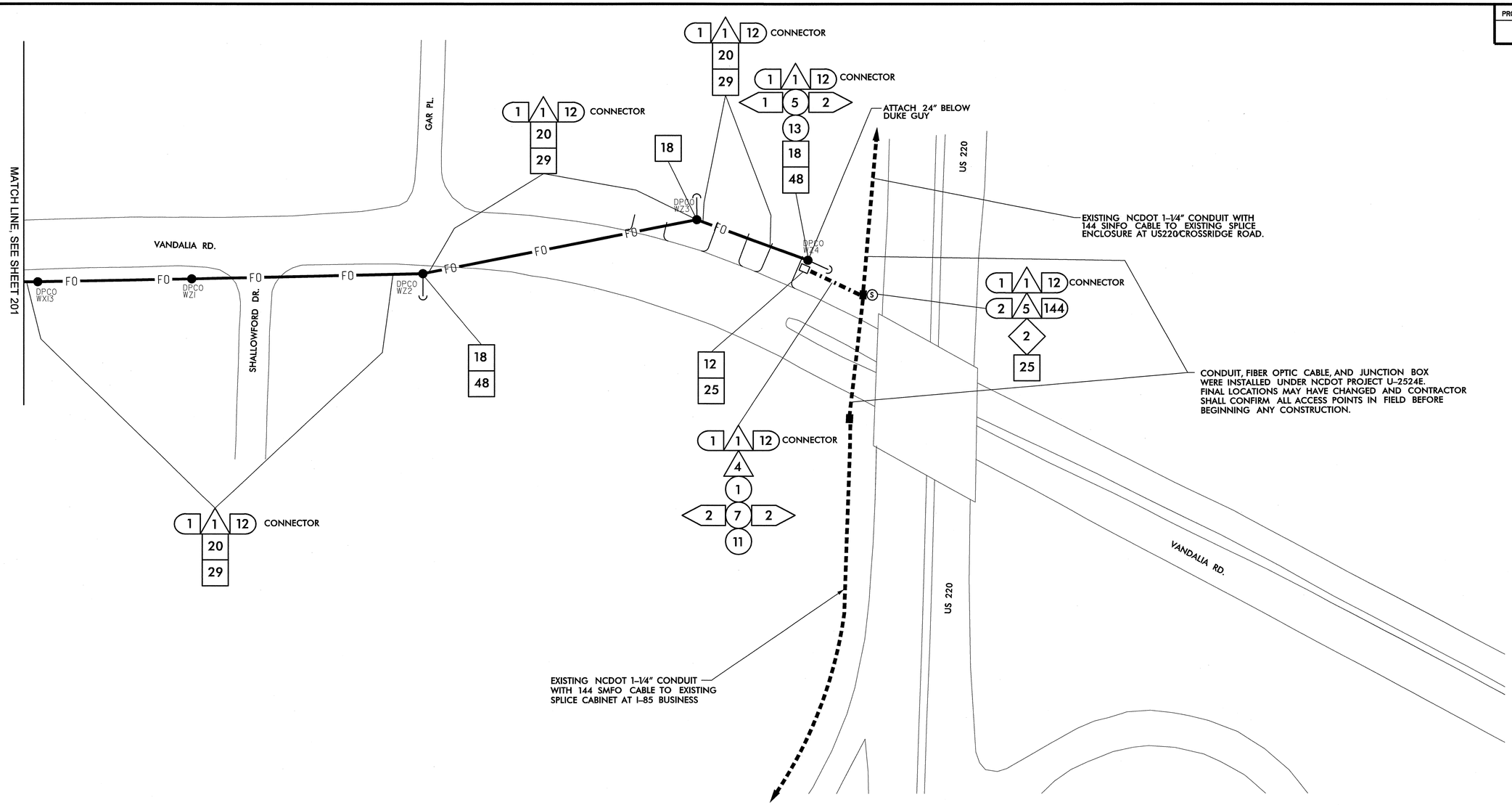
PROJECT REFERENCE NO.	SHEET NO.
U-4711	202



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3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

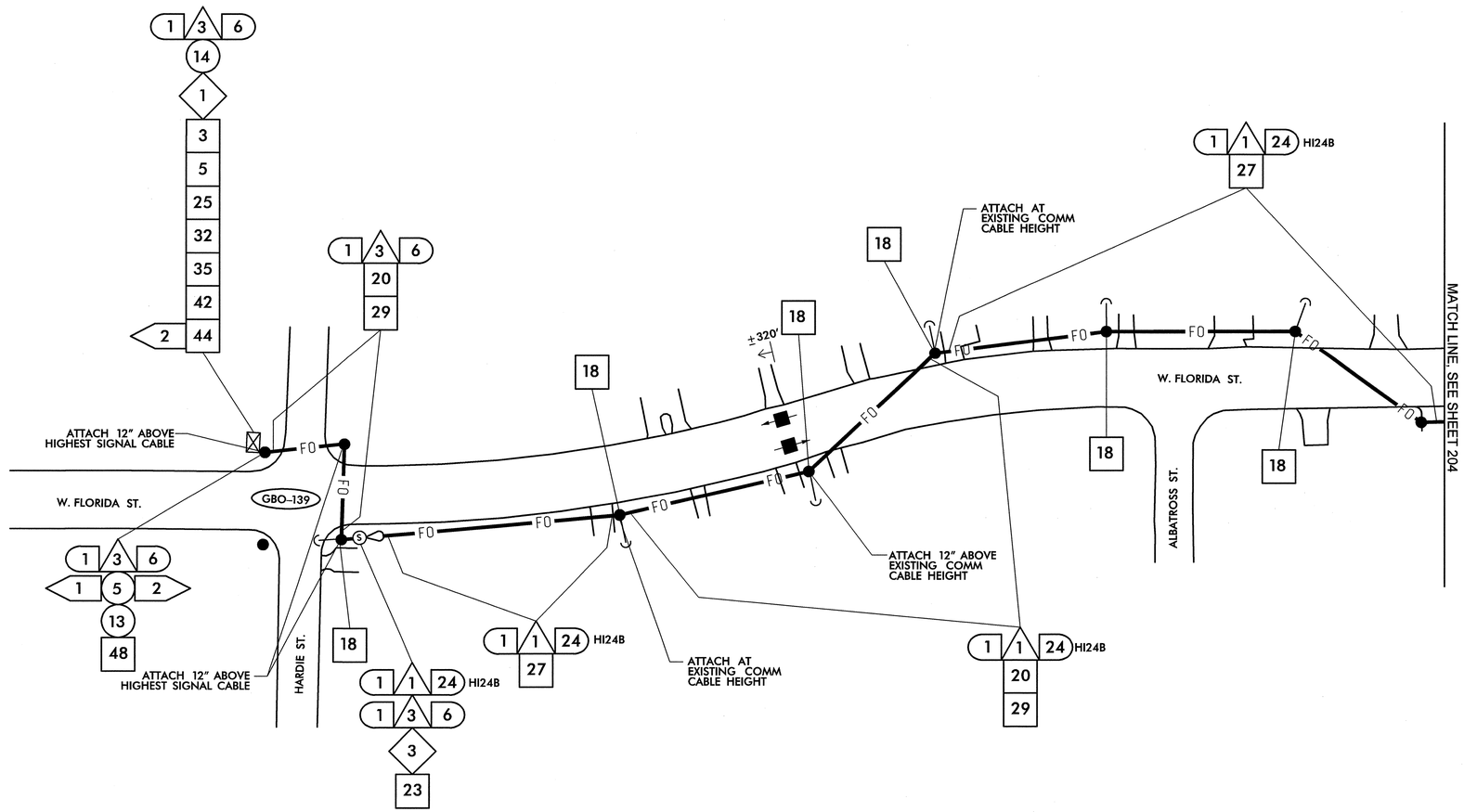
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0202.dgn

2/20/2008
I:\systems\projects\01\46202\0 tg-boro mt\SH\0202.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	203



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
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5	INSTALL NEW 332 BASE MOUNTED CABINET
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8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0203.dgn

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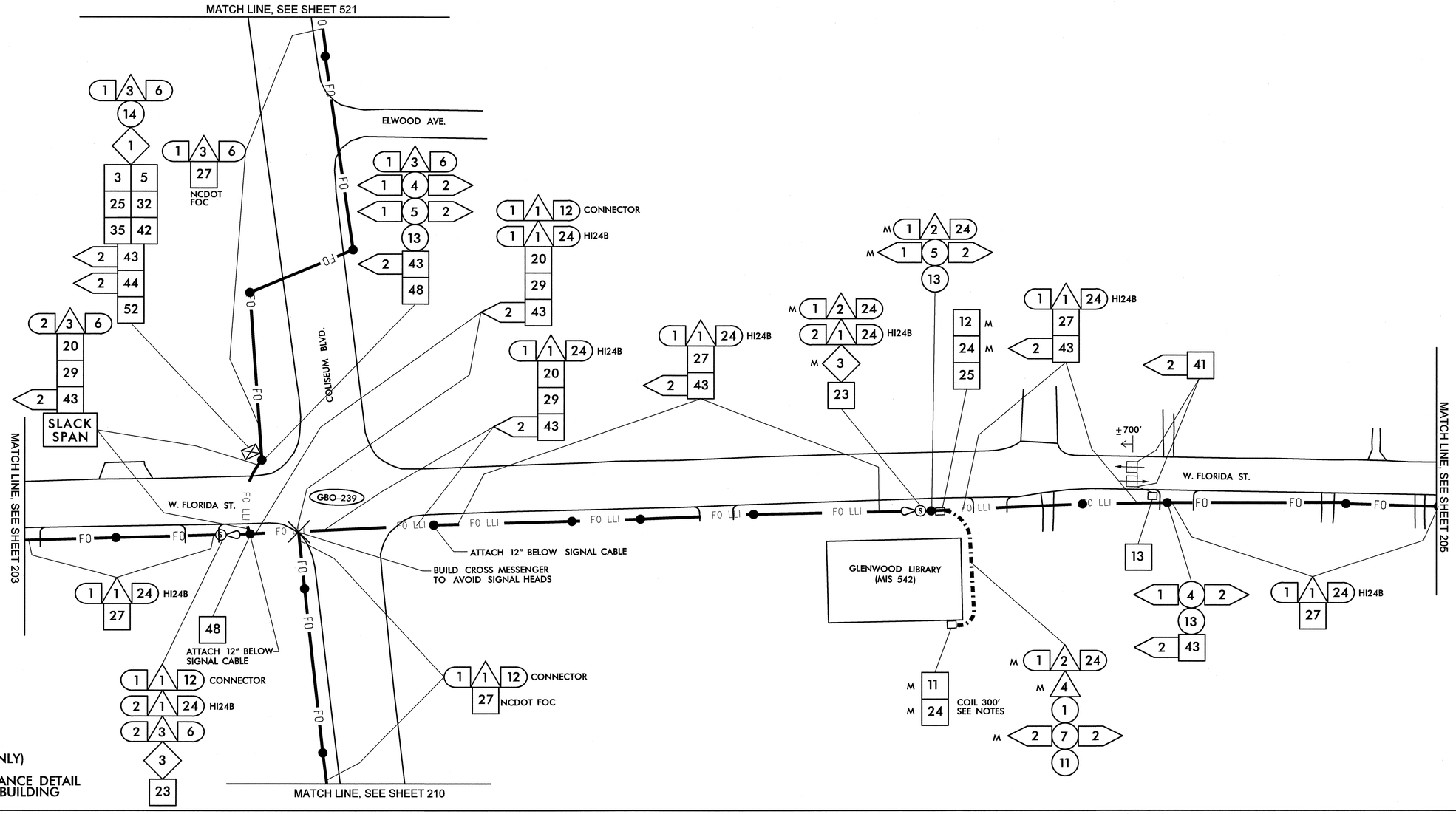
PROJECT REFERENCE NO.	SHEET NO.
U-4711	204



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
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3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
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7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
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11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
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24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
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43	INSTALL SYSTEM LOOP LEAD-IN CABLE
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46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL 023562 NORTH CAROLINA PROFESSIONAL ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

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2/20/2008
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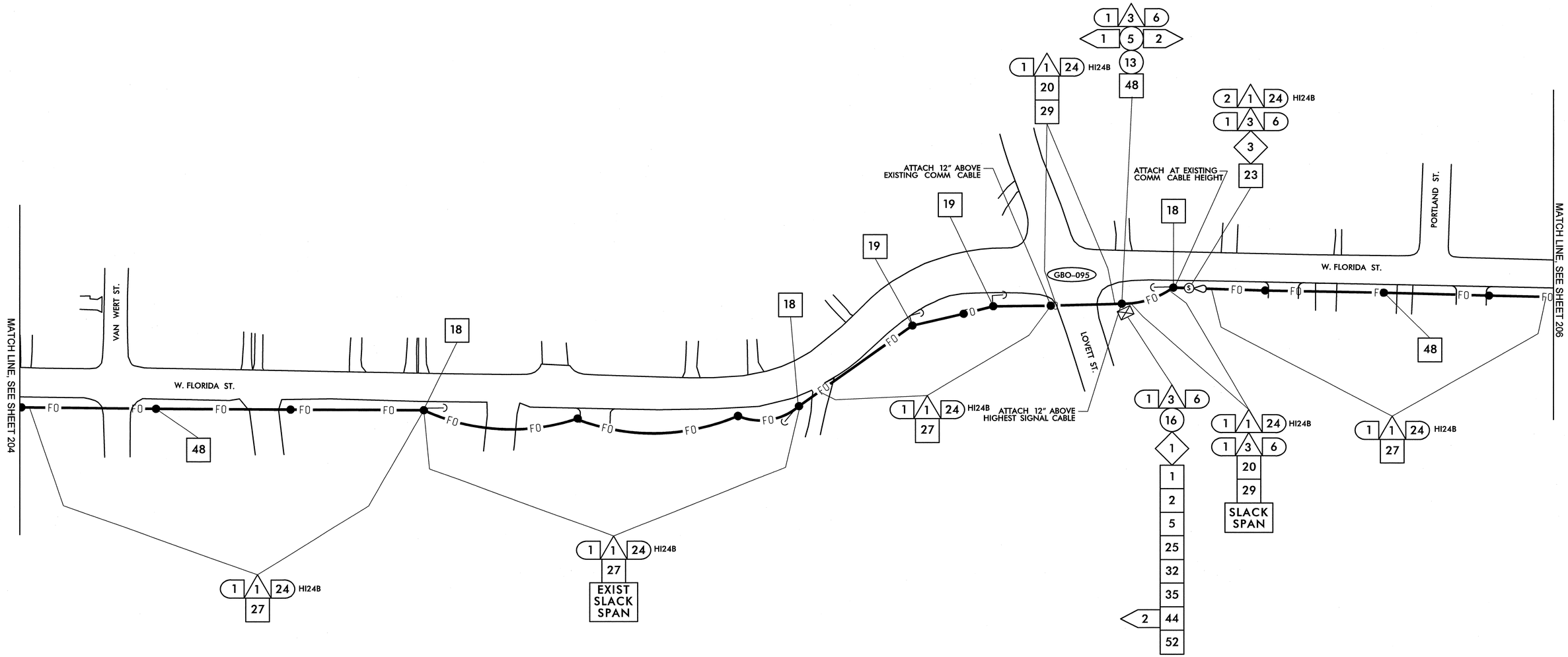
PROJECT REFERENCE NO.	SHEET NO.
U-4711	205



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET

6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
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13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
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23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0205.dgn

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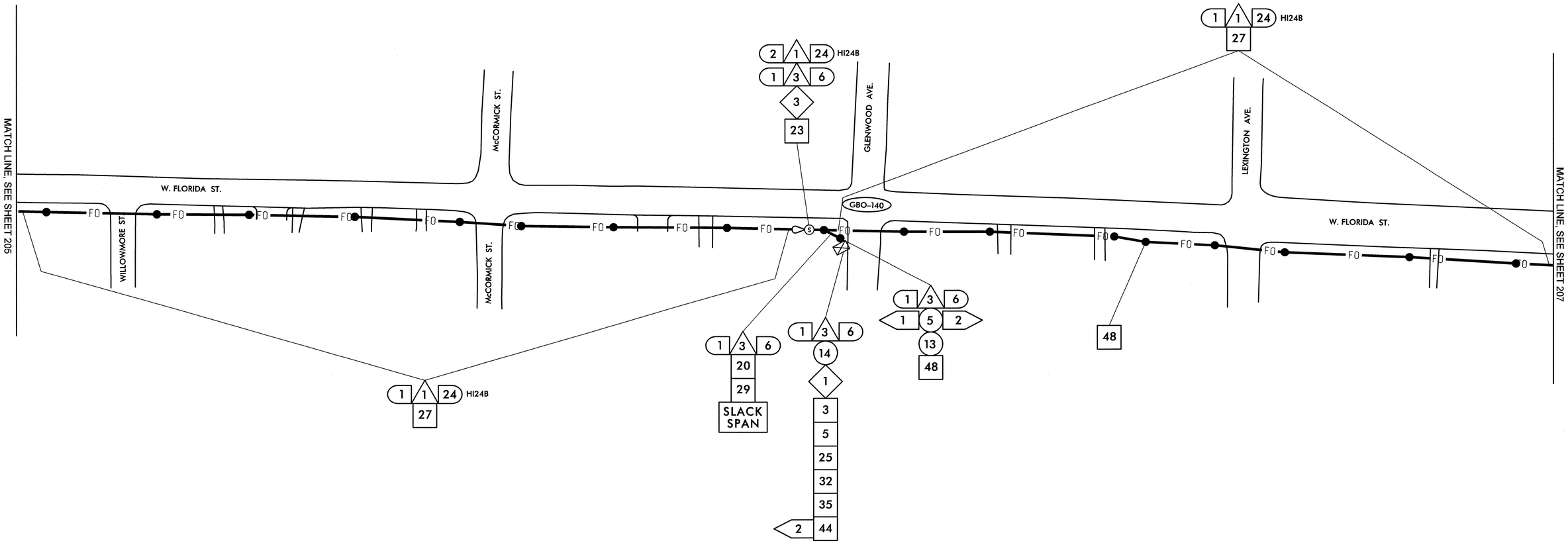
PROJECT REFERENCE NO.	SHEET NO.
U-4711	206



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8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0206.dgn

2/20/2008
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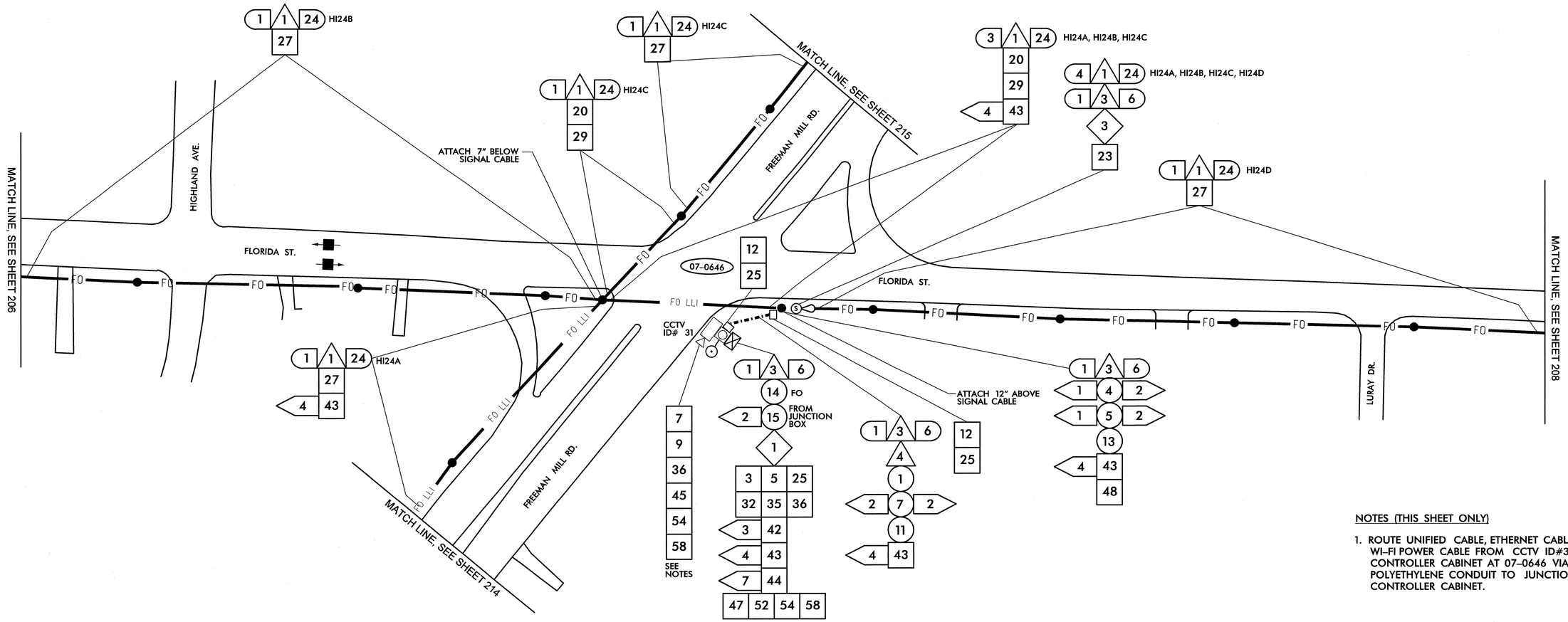

NOTES (THIS SHEET ONLY)

1. ROUTE UNIFIED CABLE, ETHERNET CABLE, AND WI-FI POWER CABLE FROM CCTV ID#31 TO CONTROLLER CABINET AT 07-0646 VIA NEW POLYETHYLENE CONDUIT TO JUNCTION BOX AT CONTROLLER CABINET.

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0207.dgn

2/20/2008
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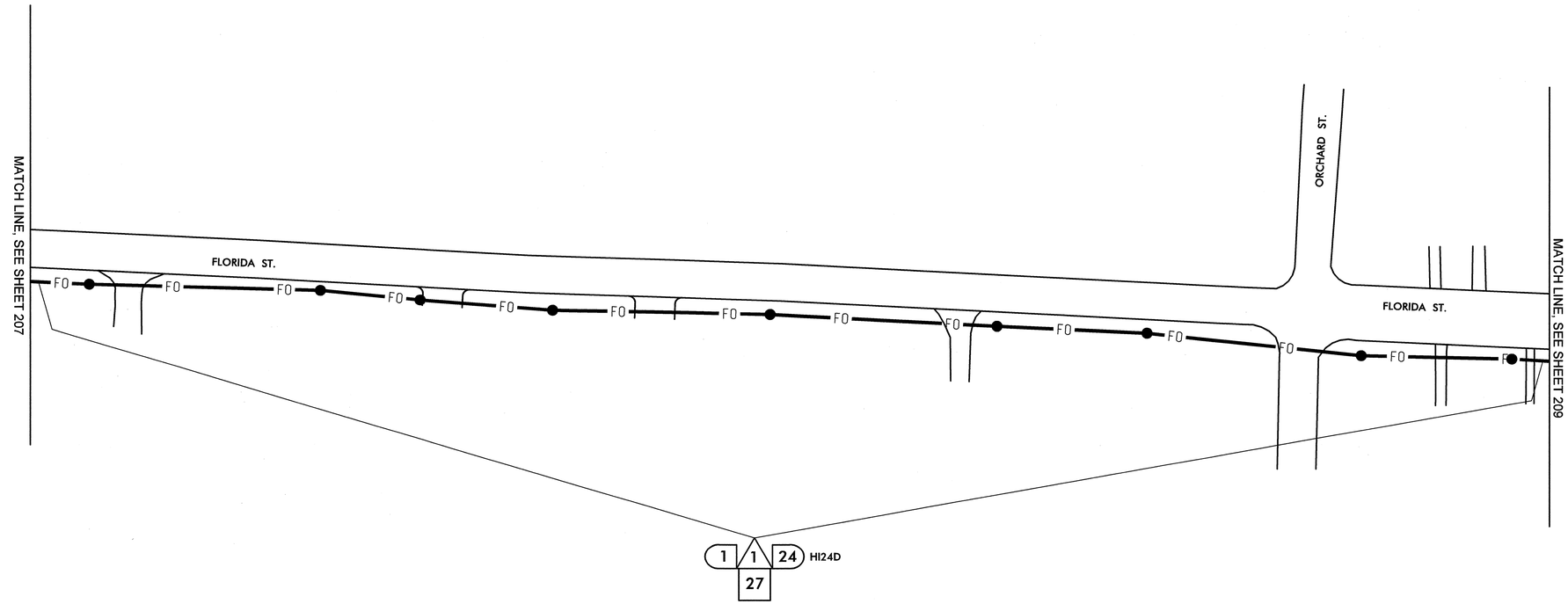
PROJECT REFERENCE NO.	SHEET NO.
U-4711	208



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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Public Engineering and Safety Systems Branch
Division of Highways
State of North Carolina
Department of Transportation
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sh10208.dgn

2/20/2008
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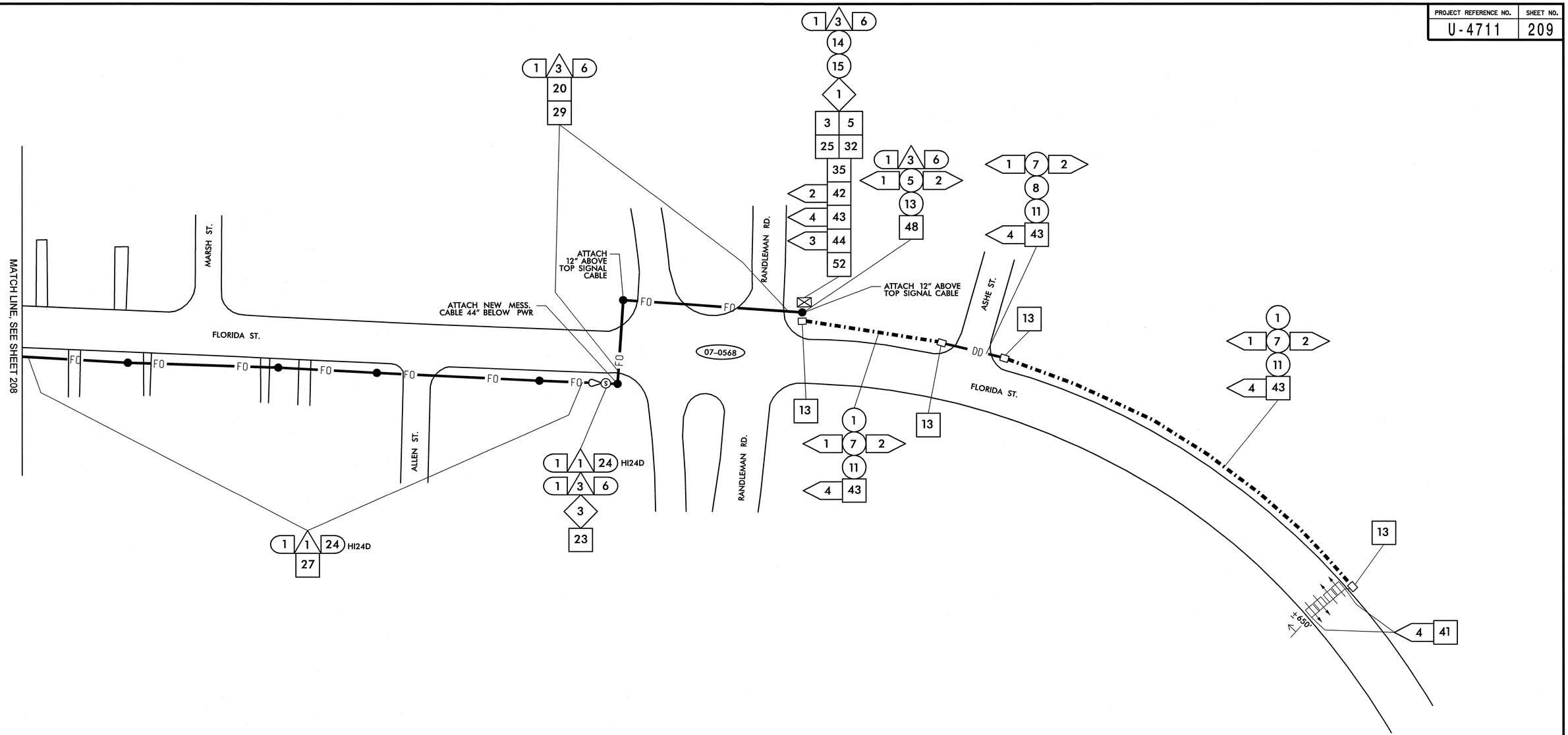
PROJECT REFERENCE NO.	SHEET NO.
U-4711	209



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Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0209.dgn

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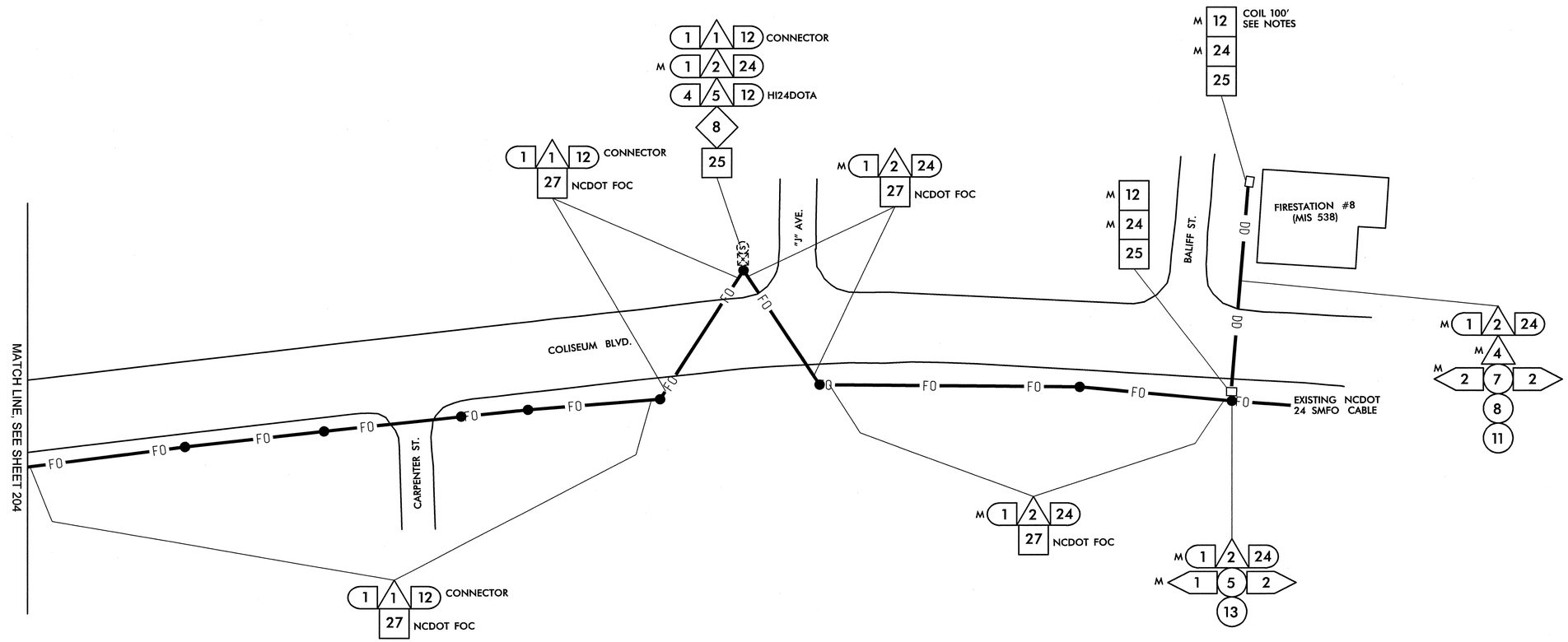
PROJECT REFERENCE NO.	SHEET NO.
U-4711	210



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

1	INSTALL SMFO CABLE
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21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

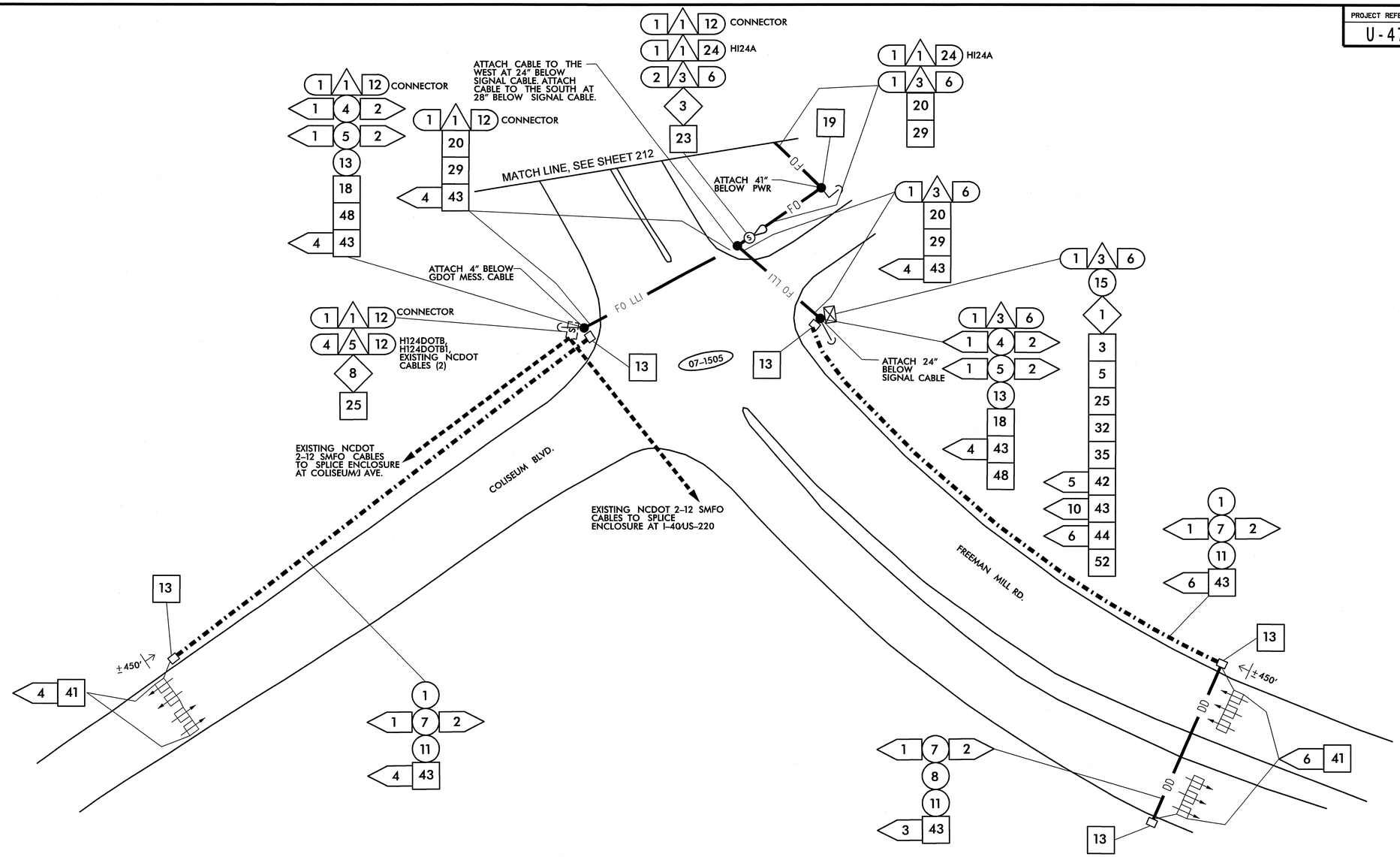
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/29/08 DATE

CADD Filename: ...\Sht0210m.dgn

2/29/2008
h:\systems\projects\U4711\2020 tg-boro mis\Sht0210m.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	211



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/29/08

CADD Filenames ...\Sh1021l.dgn

2/29/2008
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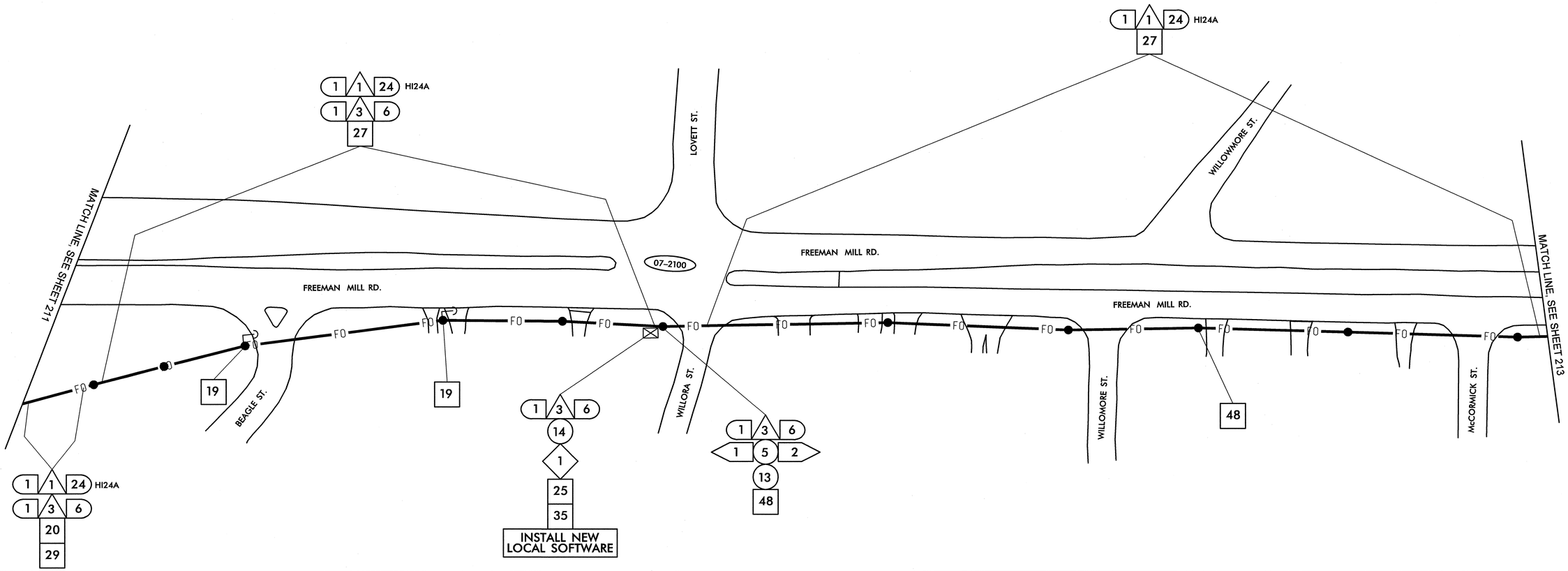
PROJECT REFERENCE NO.	SHEET NO.
U-4711	212



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2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
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2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
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6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
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2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
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32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
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45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
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56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0212.dgn

2/20/2008
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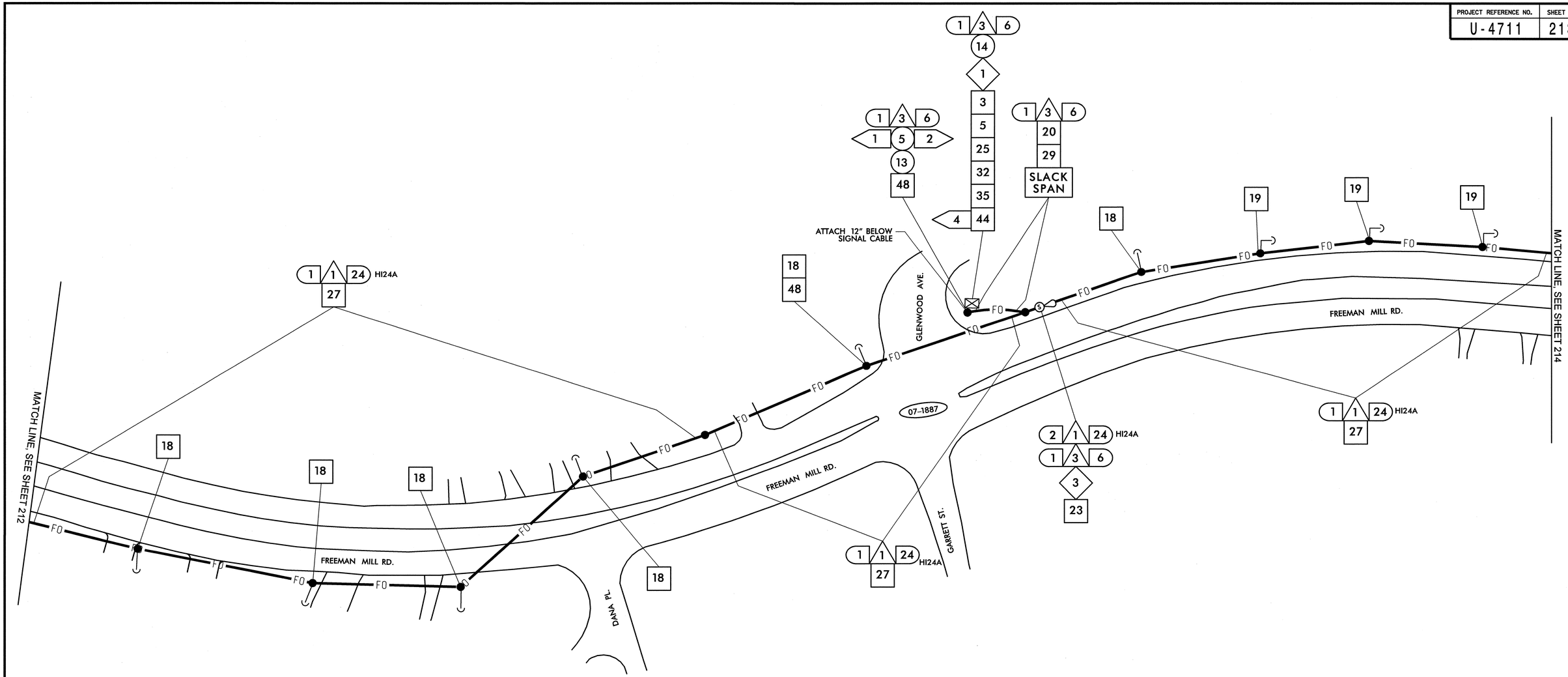
PROJECT REFERENCE NO.	SHEET NO.
U-4711	213



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0213.dgn

2/20/2008
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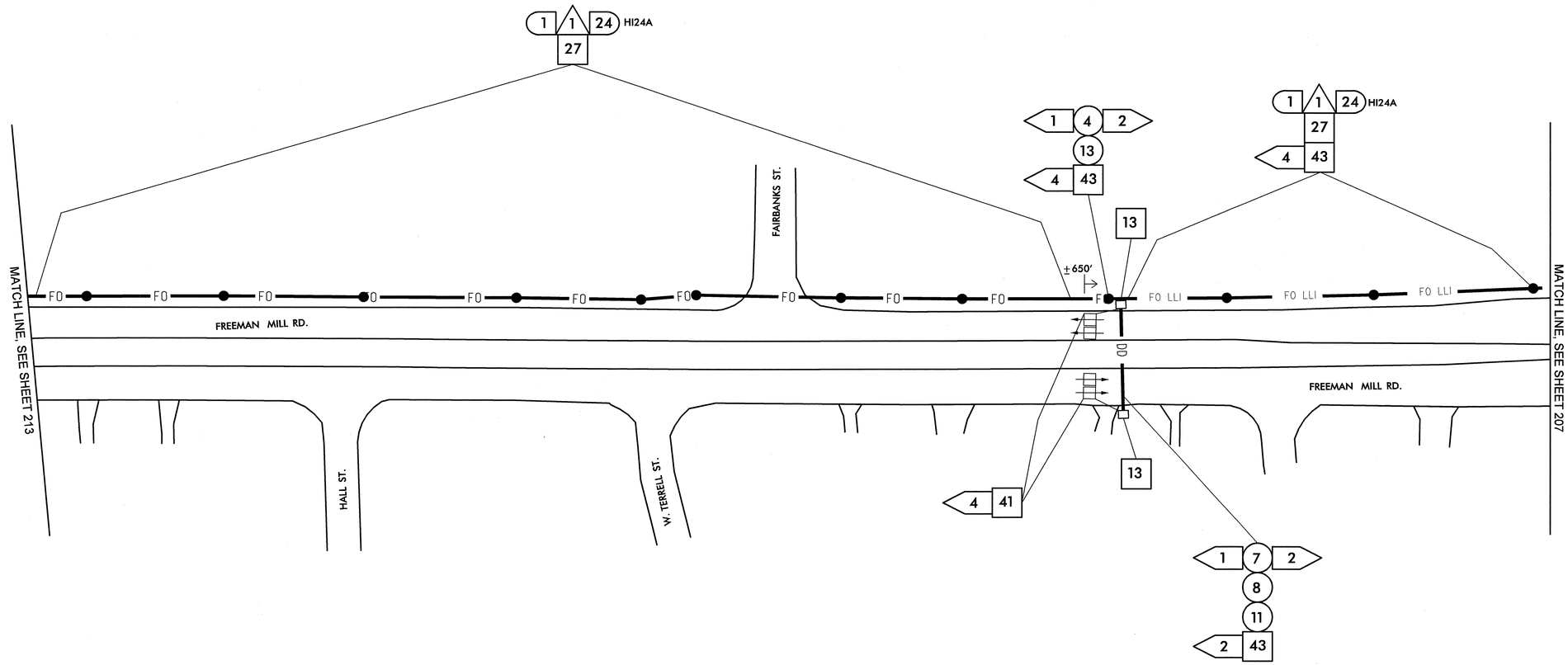
PROJECT REFERENCE NO.	SHEET NO.
U-4711	214



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50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0214.dgn

2/20/2008
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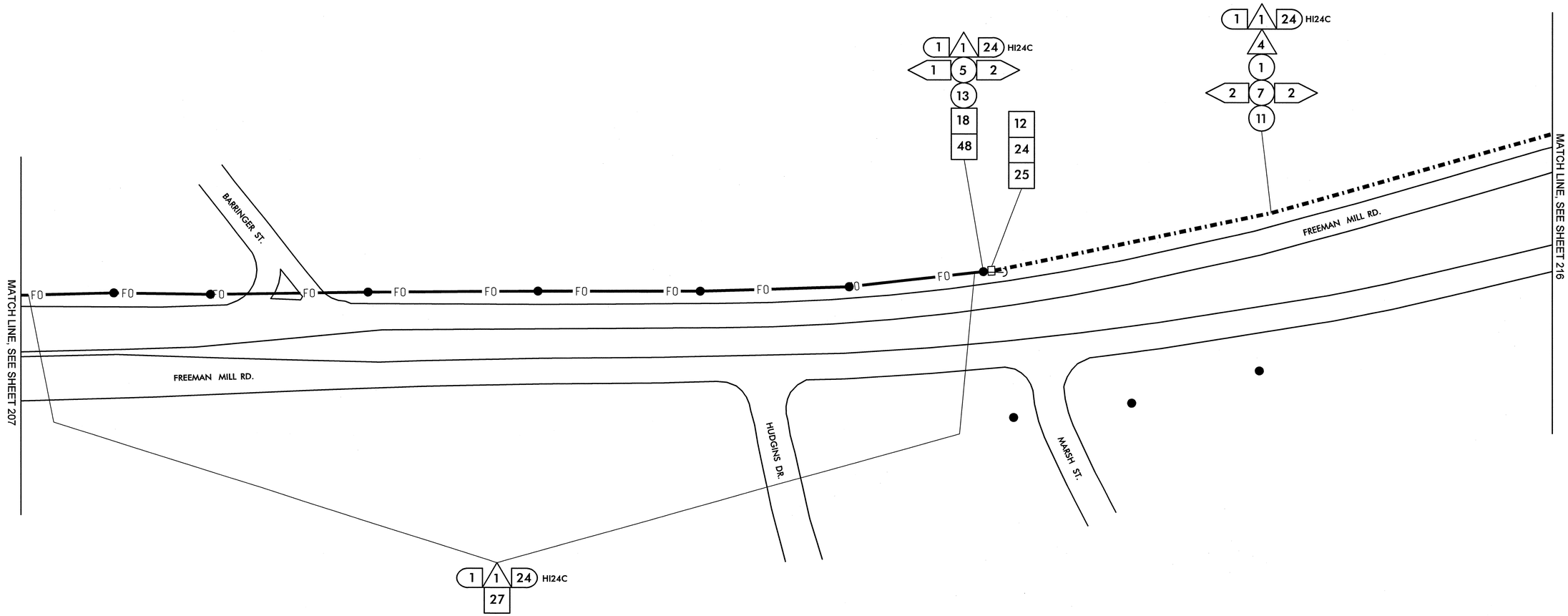
PROJECT REFERENCE NO.	SHEET NO.
U-4711	215



1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0215.dgn

2/20/2008
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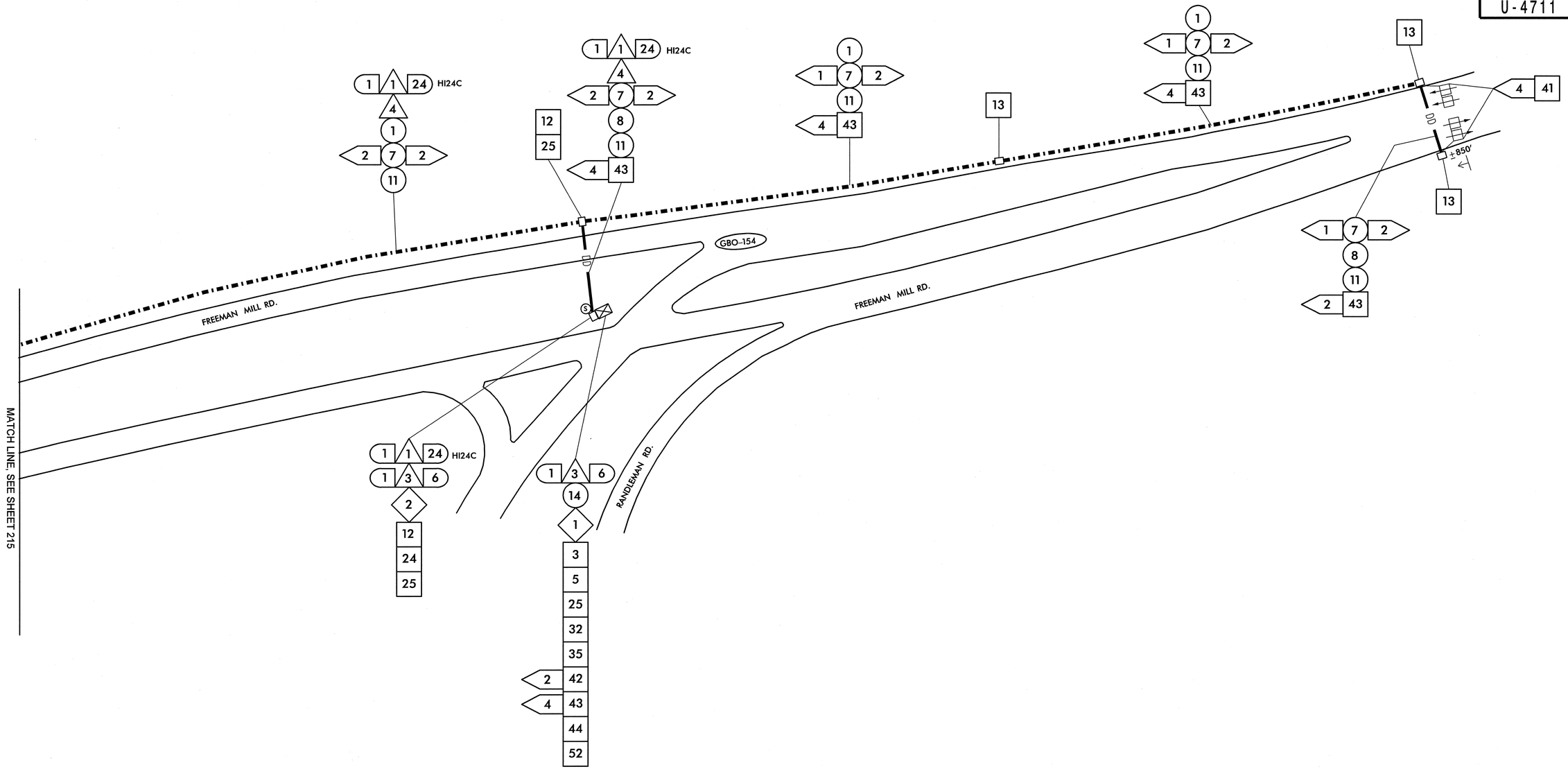
PROJECT REFERENCE NO.	SHEET NO.
U-4711	216



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
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30	INSTALL NEW ELECTRICAL SERVICE
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32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
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40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
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50	INSTALL ANTENNA CABLE
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0216.dgn

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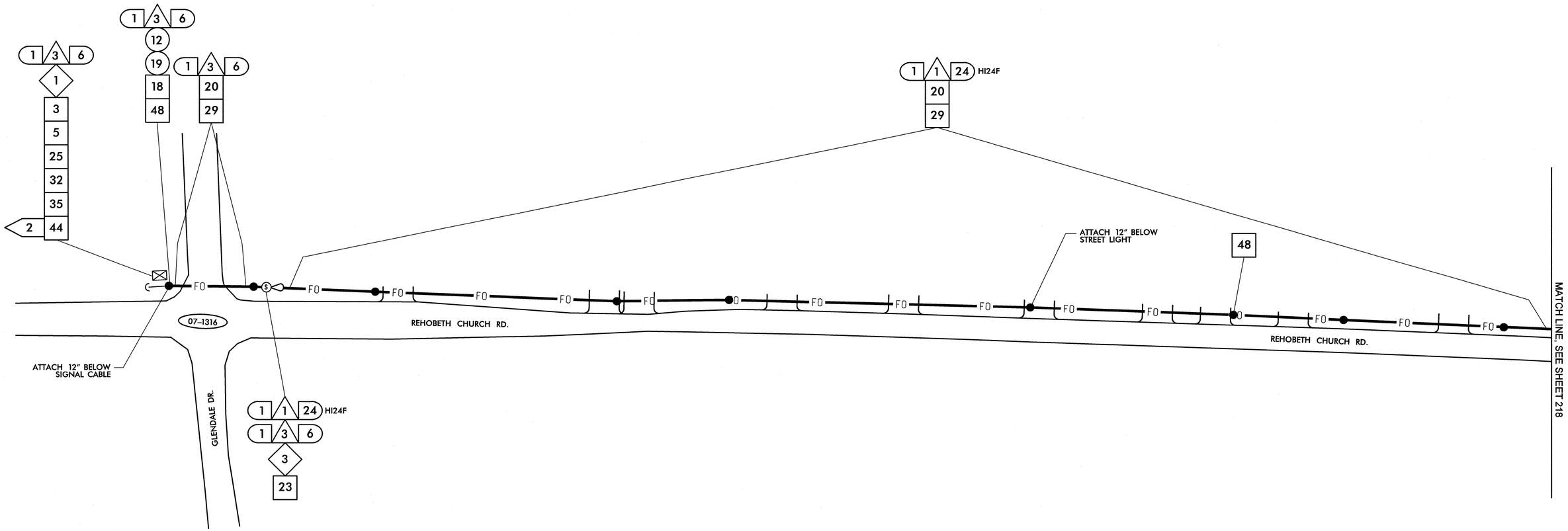
PROJECT REFERENCE NO.	SHEET NO.
U-4711	217



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
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PLANS PREPARED IN THE OFFICE OF:
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename ...\Sht0217.dgn

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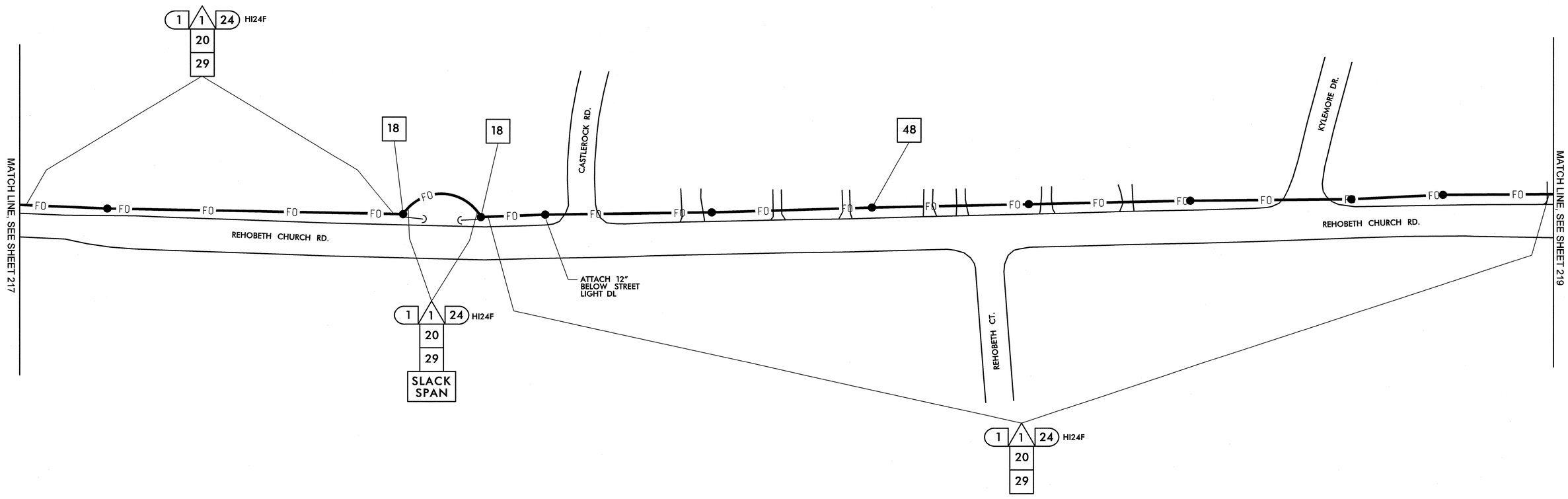
PROJECT REFERENCE NO.	SHEET NO.
U-4711	218



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CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0218.dgn

2/20/2008
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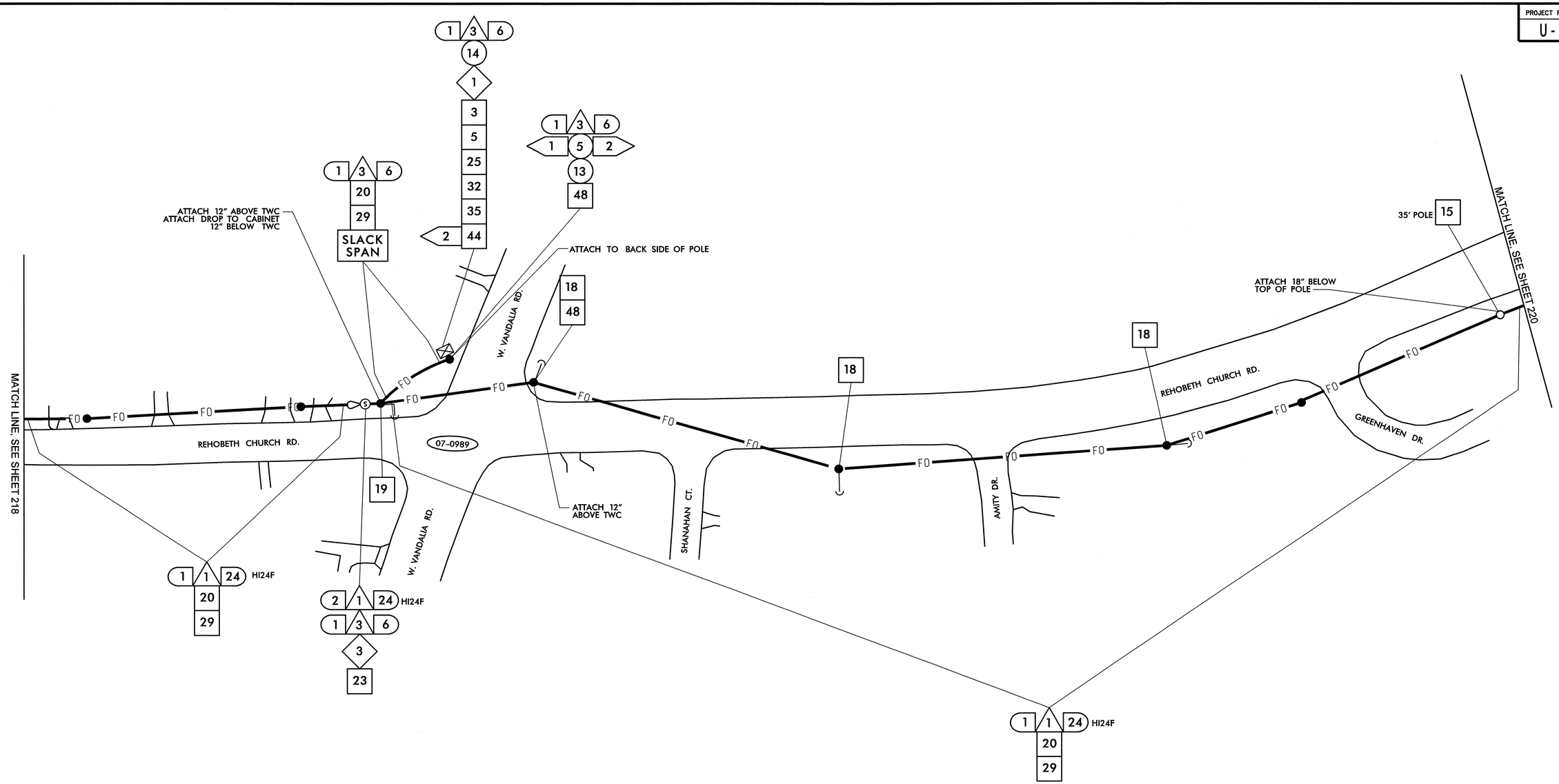
PROJECT REFERENCE NO.	SHEET NO.
U-4711	219



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	INSTALL CCTV CAMERA ASSEMBLY/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING SIGNAL/ MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0219.dgn

2/20/2008
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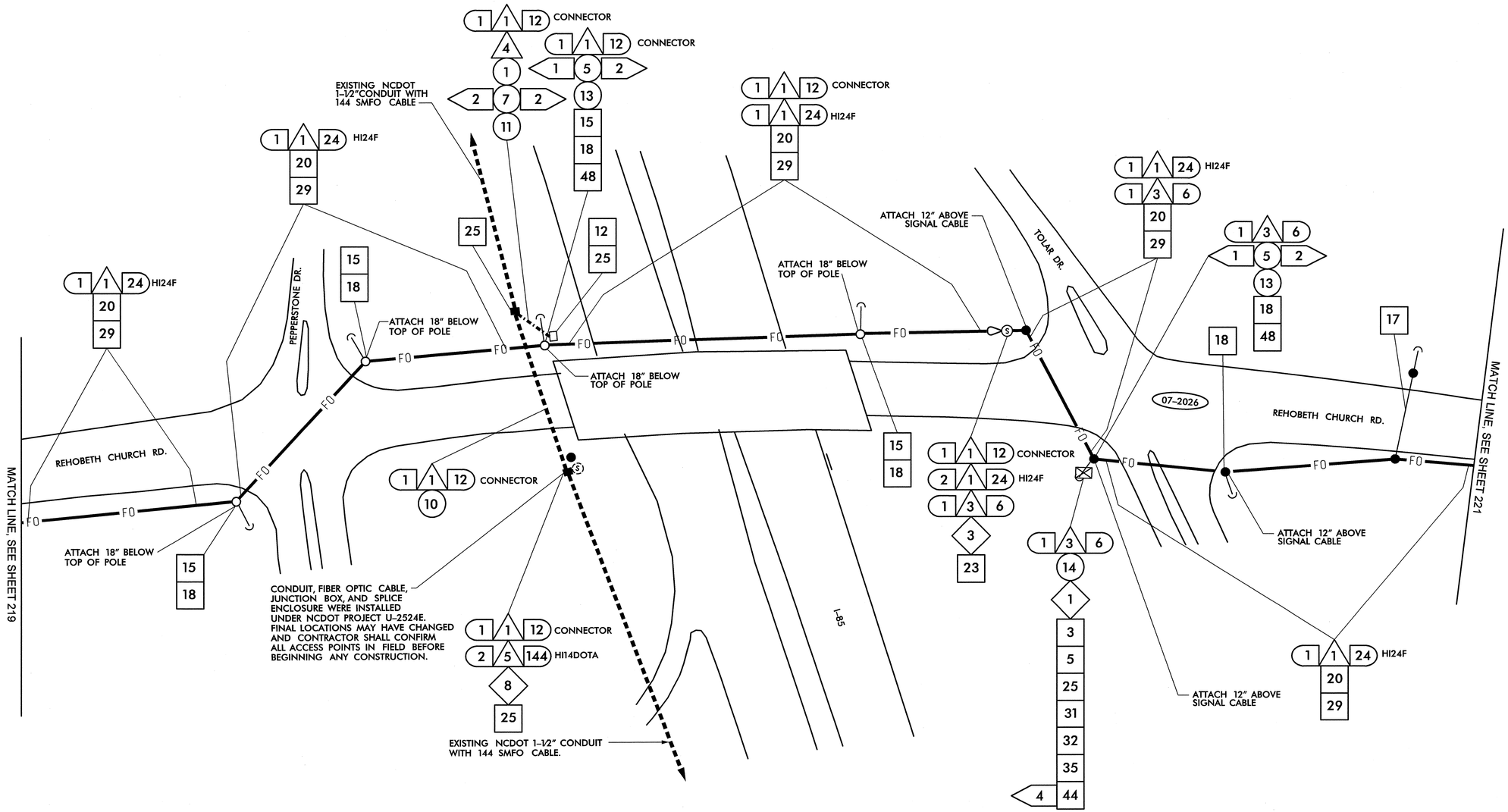
PROJECT REFERENCE NO.	SHEET NO.
U-4711	220



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NOTE:
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PLANS PREPARED IN THE OFFICE OF:

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Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
Department of Transportation
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0220.dgn

2/20/2008
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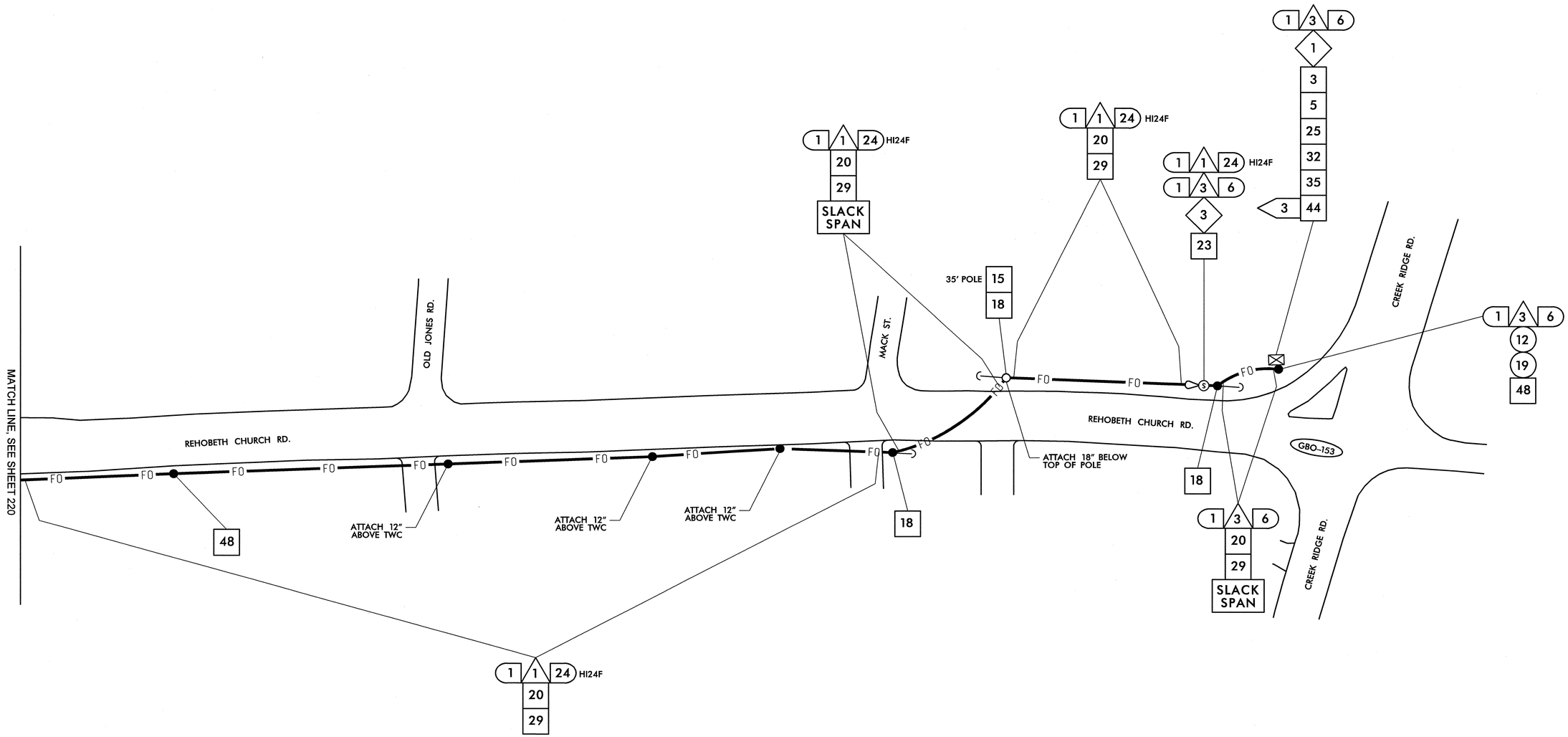
PROJECT REFERENCE NO.	SHEET NO.
U-4711	221



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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0221.dgn

2/20/2008
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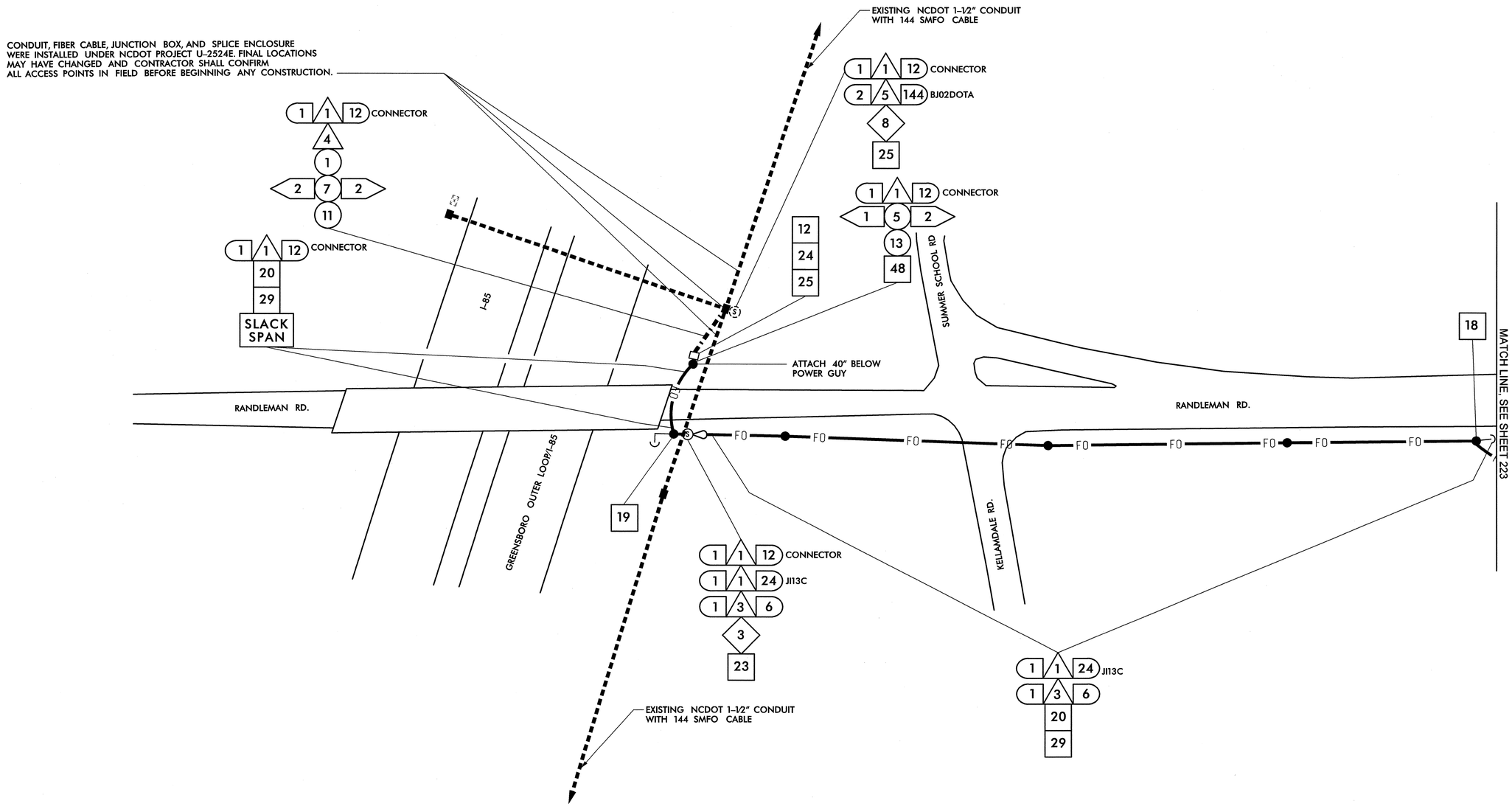
PROJECT REFERENCE NO.	SHEET NO.
U-4711	222



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2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

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SIGNATURE DATE 2/20/08
CADD Filename: ...\Sht0222.dgn

2/20/2008
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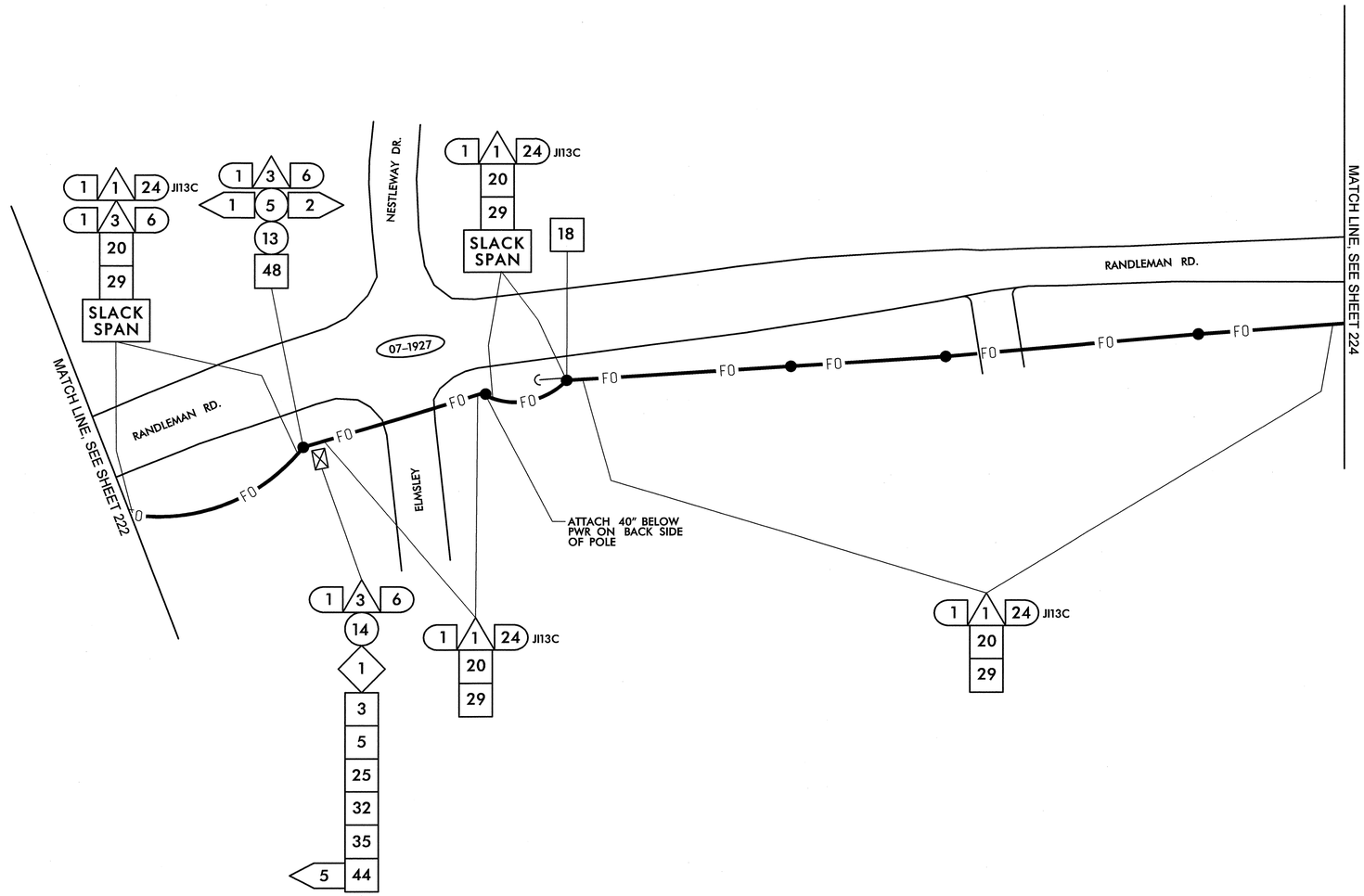
PROJECT REFERENCE NO.	SHEET NO.
U-4711	223



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0223.dgn

2/20/2008
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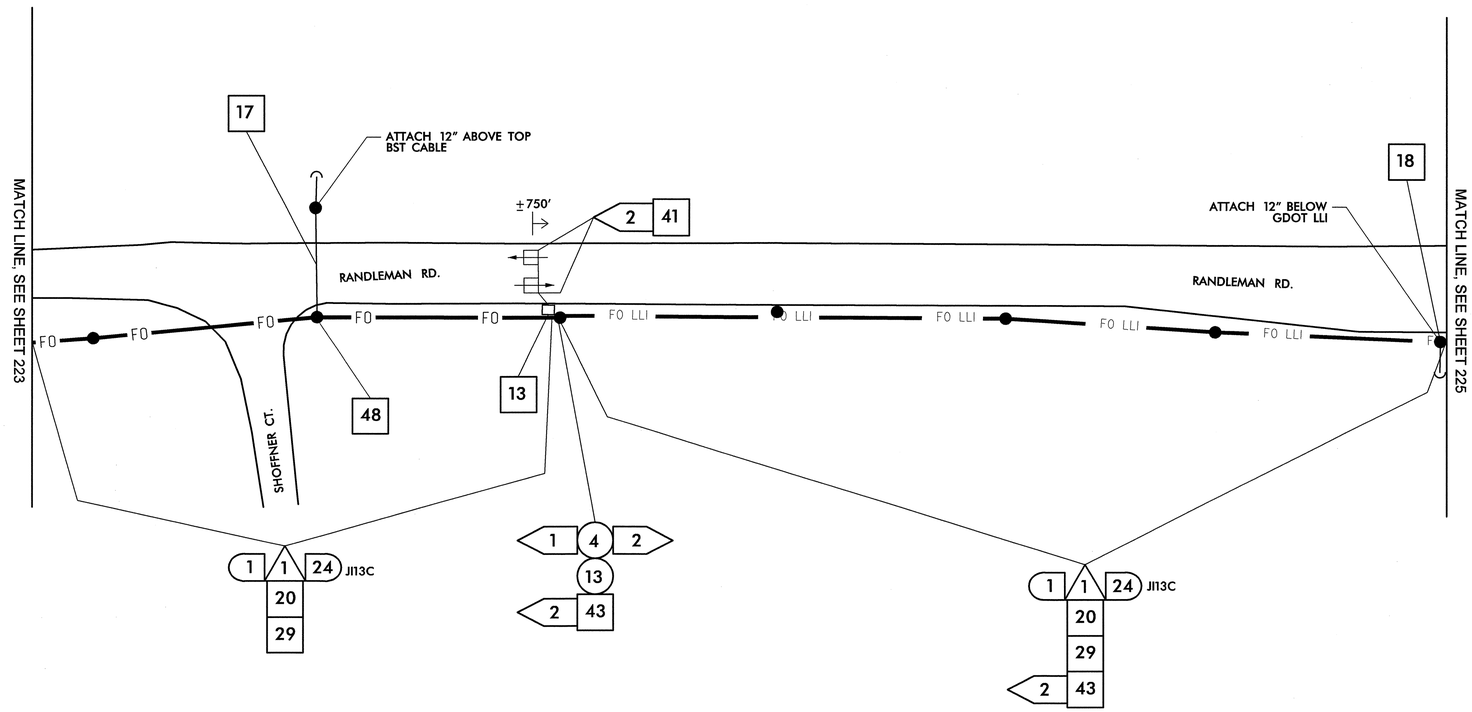

1 INSTALL SMFO CABLE	14 INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6 INSTALL NEW 336S CABINET	26 STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44 INSTALL LOCAL LOOP AMPLIFIER	53 INSTALL DSL ETHERNET SWITCH
2 INSTALL PLENUM RATED FIBER OPTIC CABLE	15 INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7 INSTALL CCTV CAMERA ASSEMBLY	27 LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45 INSTALL CITY WI-FI ANTENNA	54 INSTALL ETHERNET CABLE
3 INSTALL FIBER OPTIC DROP CABLE	16 INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8 INSTALL CCTV CAMERA WOOD POLE	28 LASH CABLE(S) TO EXISTING MESSENGER CABLE	46 INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55 INSTALL TERMINAL SERVER
4 INSTALL TRACER WIRE	17 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9 INSTALL CCTV METAL POLE AND FOUNDATION	29 LASH CABLE(S) TO NEW MESSENGER CABLE	47 INSTALL CODEC	56 INSTALL MICROWAVE VEHICLE DETECTOR
5 REUSE NCDOT SMFO CABLE	18 INSTALL NEW RISER INTO POLE MOUNTED CABINET	10 INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30 INSTALL NEW ELECTRICAL SERVICE	48 BOND MESSENGER CABLE TO POLE GROUND	57 INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
6 REUSE GDOT SMFO CABLE	19 REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11 INSTALL SPECIAL OVERSIZED JUNCTION BOX	31 MODIFY EXISTING ELECTRICAL SERVICE	49 INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58 INSTALL WIRELESS ACCESS POINT POWER CABLE
1 TRENCH	1 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12 INSTALL OVERSIZED JUNCTION BOX	32 INSTALL NEW CONTROLLER	50 INSTALL ANTENNA CABLE	
2 INSTALL PVC CONDUIT	2 INSTALL UNDERGROUND SPLICE ENCLOSURE	13 INSTALL STANDARD JUNCTION BOX	33 INSTALL EXISTING CABLE IN NEW CABINET	51 RECONNECT RAILROAD PREEMPTION EQUIPMENT	
3 INSTALL RIGID, GALVANIZED STEEL CONDUIT	3 INSTALL AERIAL SPLICE ENCLOSURE	14 REMOVE EXISTING JUNCTION BOX	34 INSTALL GENERATOR POWER INLET BOX	52 RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT	
4 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4 INSTALL POLE MOUNTED SPLICE CABINET	15 INSTALL WOOD POLE	35 INSTALL LOCAL GIGABIT ETHERNET SWITCH		
5 INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5 INSTALL BASE MOUNTED SPLICE CABINET	16 REMOVE EXISTING WOOD POLE	36 INSTALL UNIFIED CABLE		
6 INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6 REMOVE EXISTING SPLICE CABINET	17 INSTALL AERIAL GUY ASSEMBLY	37 INSTALL POLE MOUNTED EQUIPMENT CABINET		
7 INSTALL POLYETHYLENE CONDUIT	7 INSTALL TERMINAL SPLICE BOX	18 INSTALL STANDARD GUY ASSEMBLY	38 INSTALL UNI-DIRECTIONAL YAGI ANTENNA		
8 DIRECTIONAL DRILL CONDUIT	8 MODIFY EXISTING SPLICE ENCLOSURE	19 INSTALL SIDEWALK GUY ASSEMBLY	39 INSTALL OMNI-DIRECTIONAL ANTENNA		
9 BORE AND JACK CONDUIT	1 INSTALL CABINET FOUNDATION	20 INSTALL MESSENGER CABLE	40 INSTALL RADIO TRANSCEIVER		
10 INSTALL CABLE(S) IN EXISTING CONDUIT	2 REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41 INSTALL SYSTEM LOOP		
11 INSTALL CABLE(S) IN NEW CONDUIT	3 MODIFY EXISTING CABINET FOUNDATION	22 REMOVE EXISTING COMMUNICATIONS CABLE	42 INSTALL SYSTEM LOOP AMPLIFIER		
12 INSTALL CABLE(S) IN EXISTING RISER	4 INSTALL NEW 333 COMMUNICATION CABINET	23 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43 INSTALL SYSTEM LOOP LEAD-IN CABLE		
13 INSTALL CABLE(S) IN NEW RISER	5 INSTALL NEW 332 BASE MOUNTED CABINET	24 INSTALL DELINEATOR MARKER			
		25 STORE 30 FEET OF EACH COMMUNICATIONS CABLE			

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Building
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0224.dgn

2/20/2008
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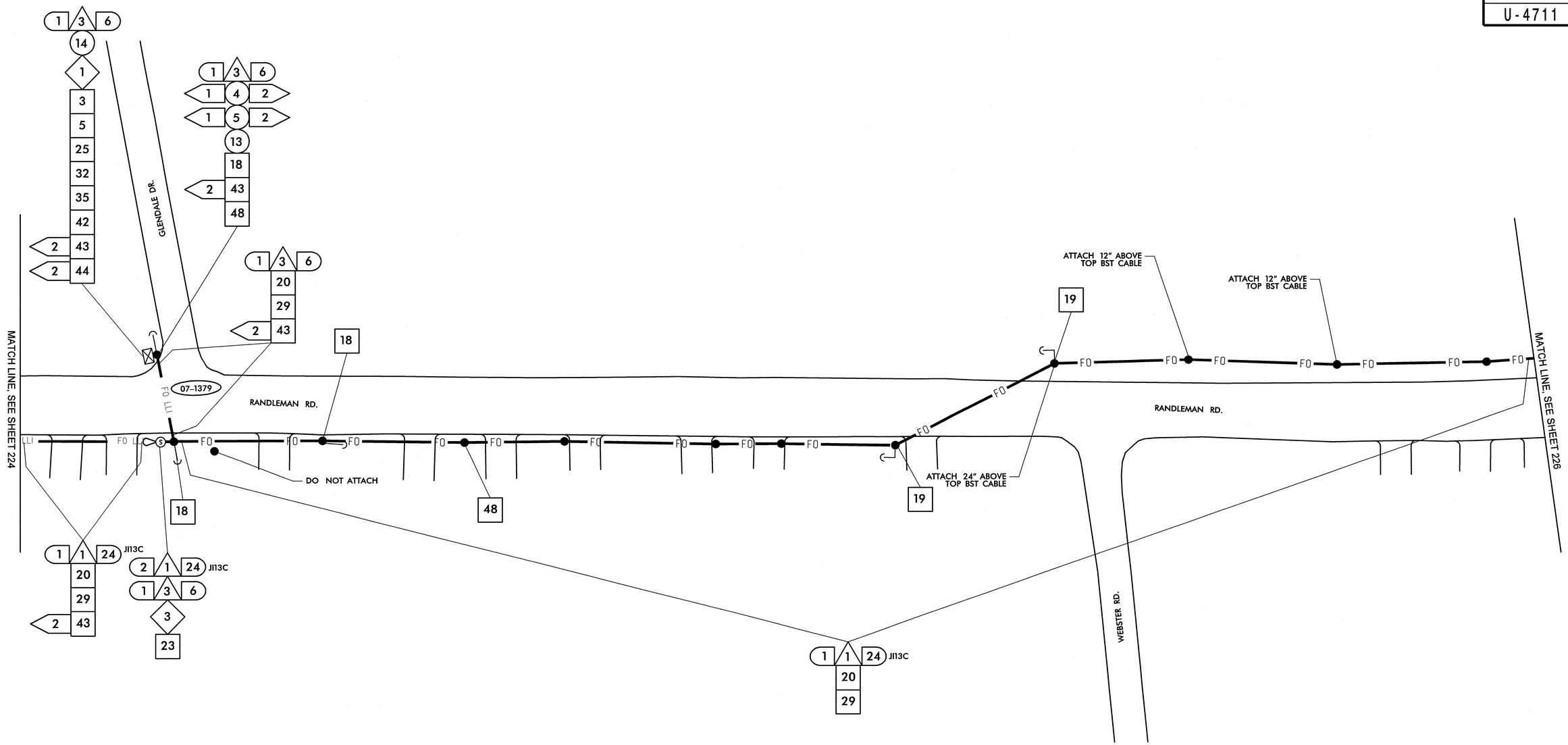
PROJECT REFERENCE NO.	SHEET NO.
U-4711	225



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
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12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
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51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Public Leadership and Safety Through Smart Transportation Systems
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNLO

SIGNATURE DATE 2/20/08

CADD Filenames ...\Sht0225.dgn

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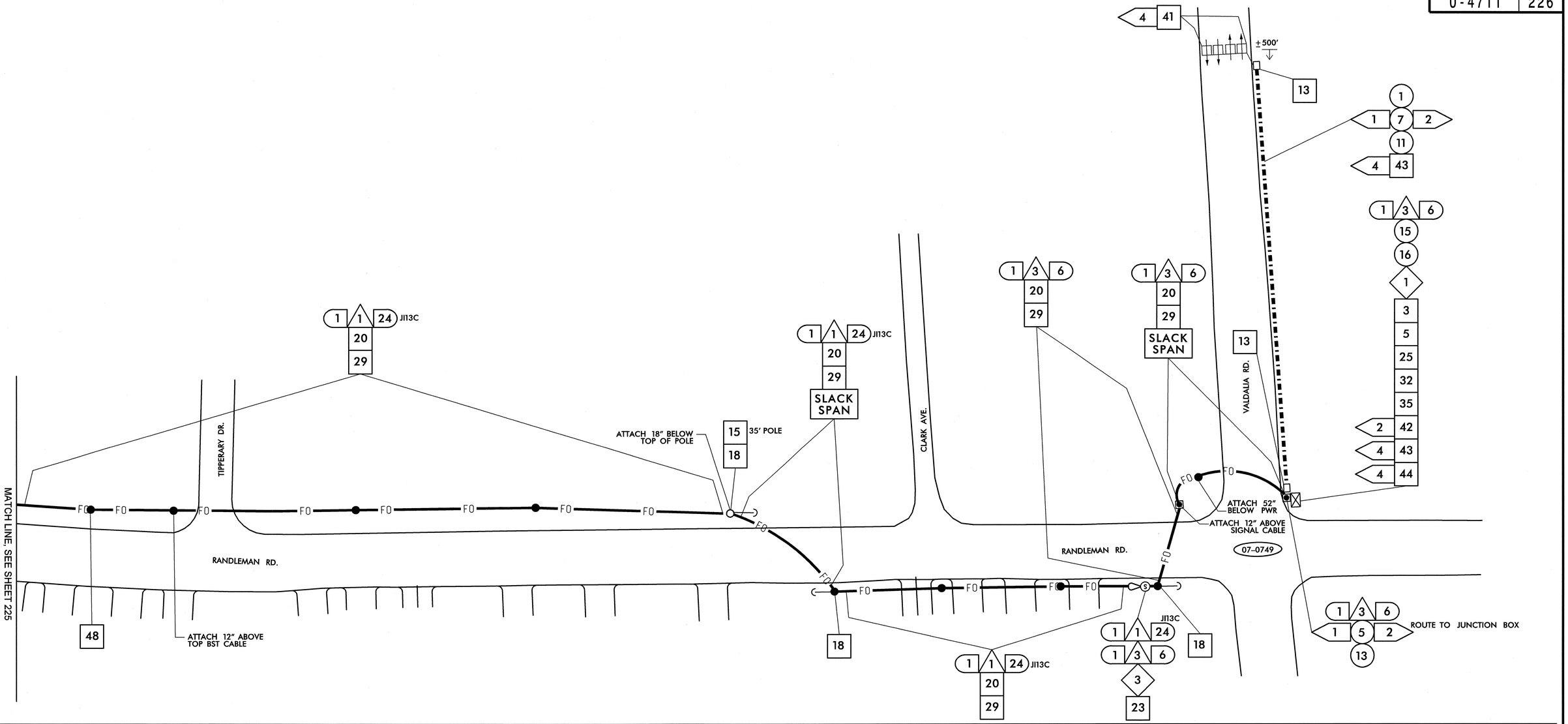
PROJECT REFERENCE NO.	SHEET NO.
U-4711	226



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Public Leadership and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0226.dgn

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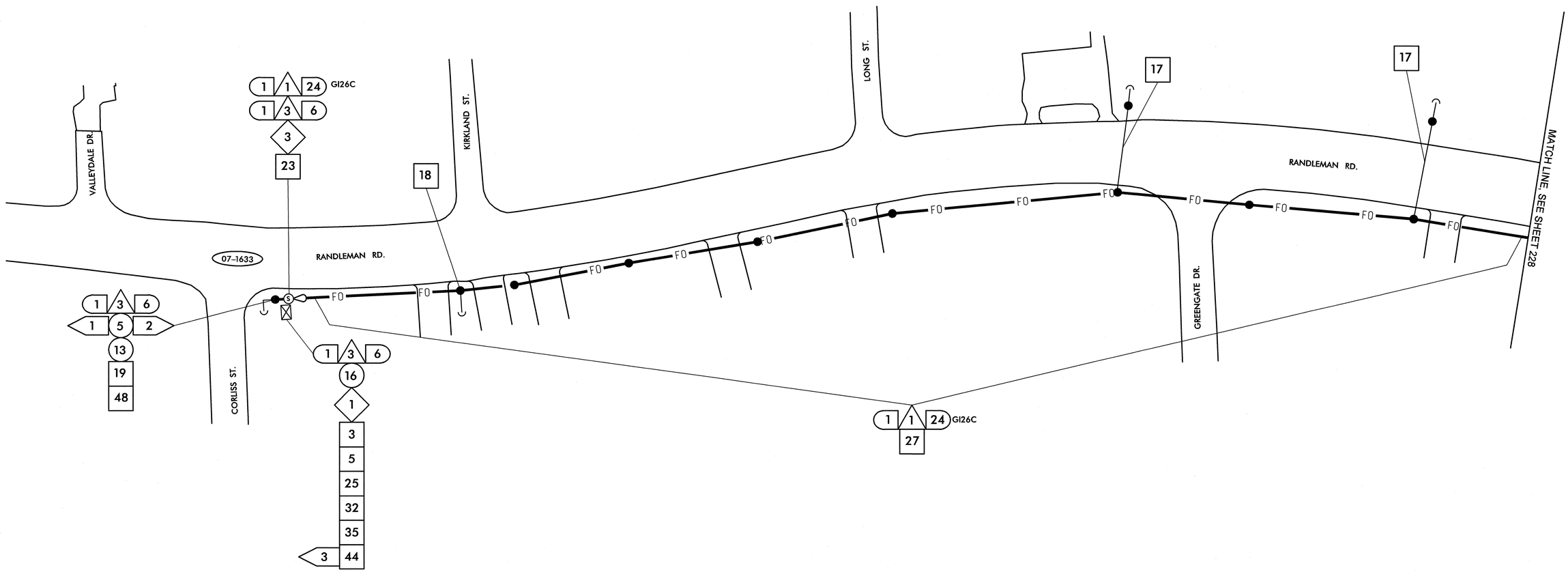
PROJECT REFERENCE NO.	SHEET NO.
U-4711	227



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15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Transportation Building
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0227.dgn

2/20/2008
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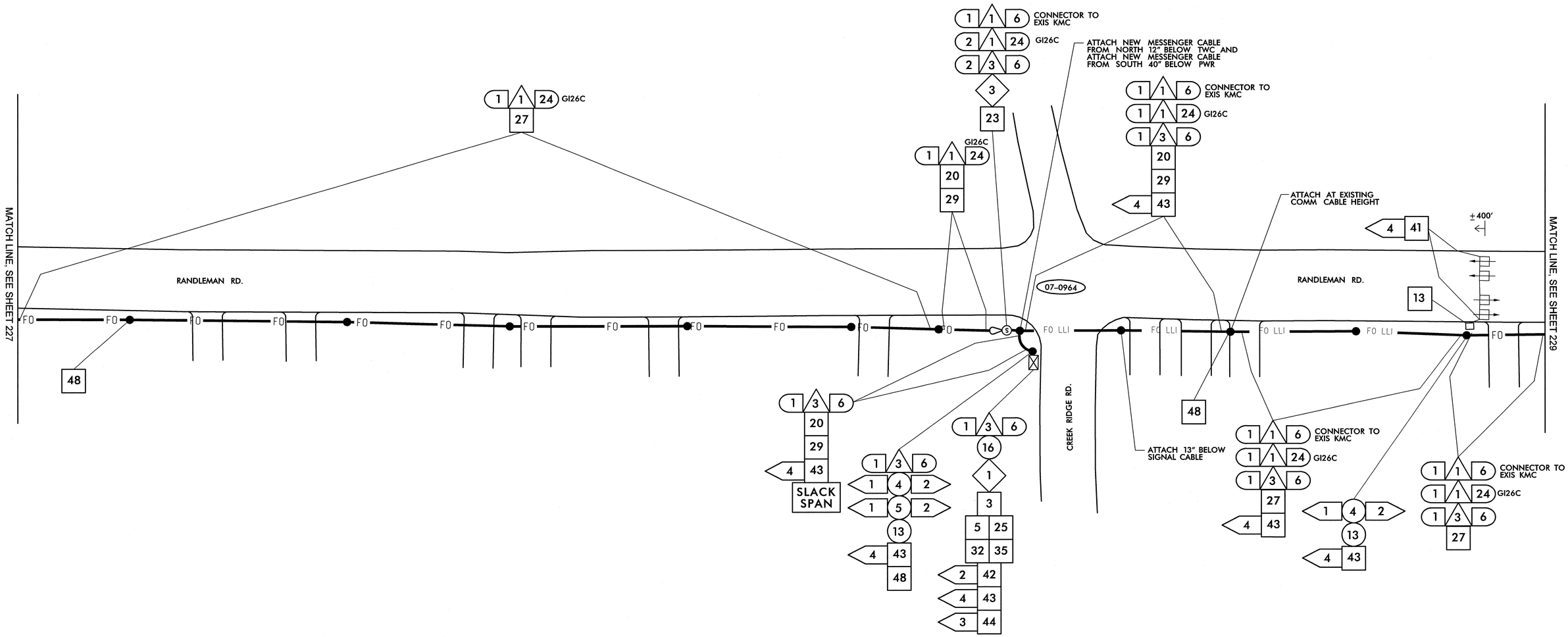
PROJECT REFERENCE NO.	SHEET NO.
U-4711	228



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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7	INSTALL TERMINAL SPLICE BOX
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9	INSTALL CCTV METAL POLE AND FOUNDATION
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24	INSTALL DELINEATOR MARKER
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
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34	INSTALL GENERATOR POWER INLET BOX
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53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
Transportation Systems
DIVISION OF HIGHWAYS, STATE OF NORTH CAROLINA
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/22/08

CADD Filename: ...\Sht0228.dgn

2/20/2008
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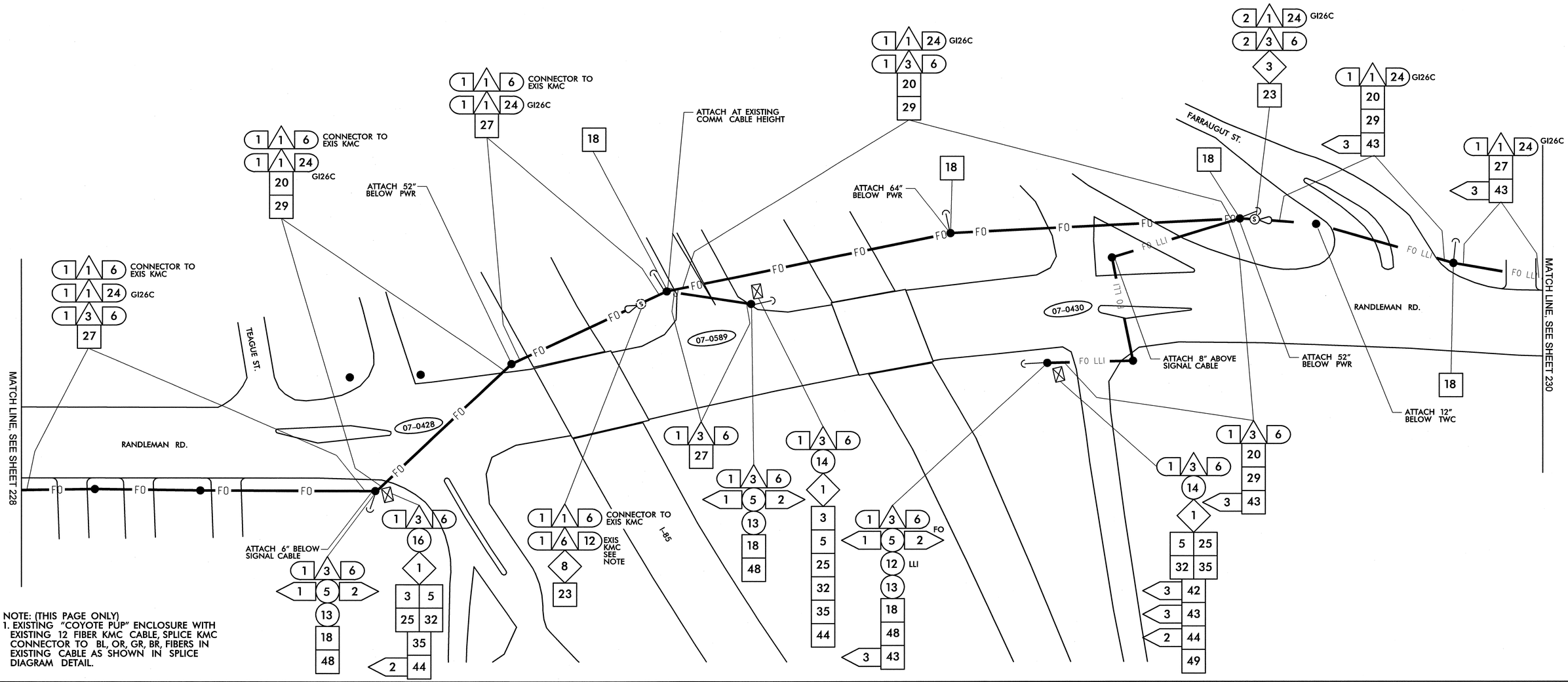
PROJECT REFERENCE NO.	SHEET NO.
U-4711	229



NOTE: (THIS PAGE ONLY)
1. EXISTING "COYOTE PUP" ENCLOSURE WITH EXISTING 12 FIBER KMC CABLE, SPLICE KMC CONNECTOR TO BL, OR, GR, BR, FIBERS IN EXISTING CABLE AS SHOWN IN SPLICE DIAGRAM DETAIL.

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
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2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
Department of Transportation
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/

CADD Filename: ...\Sht0229.dgn

2/20/2008
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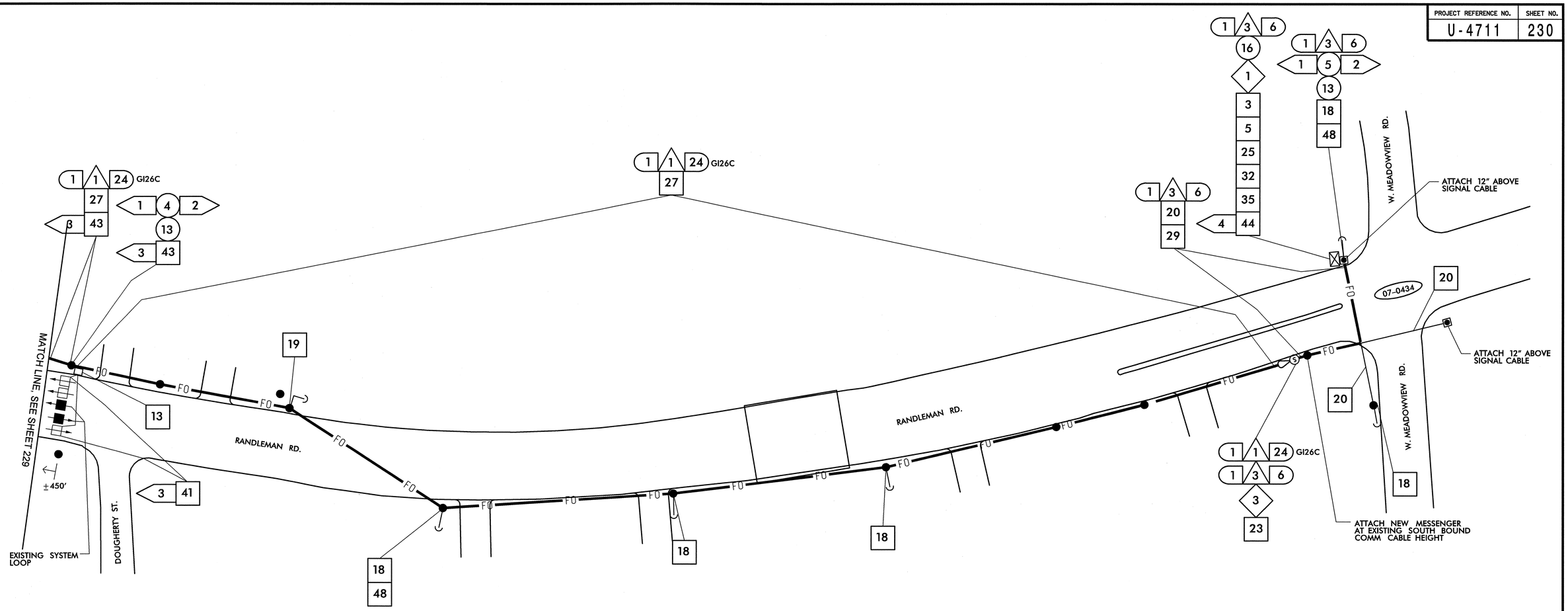
PROJECT REFERENCE NO.	SHEET NO.
U-4711	230



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
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Division of Highways
Department of Transportation
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/29/08

CADD Filename: ...\Sht0230.dgn

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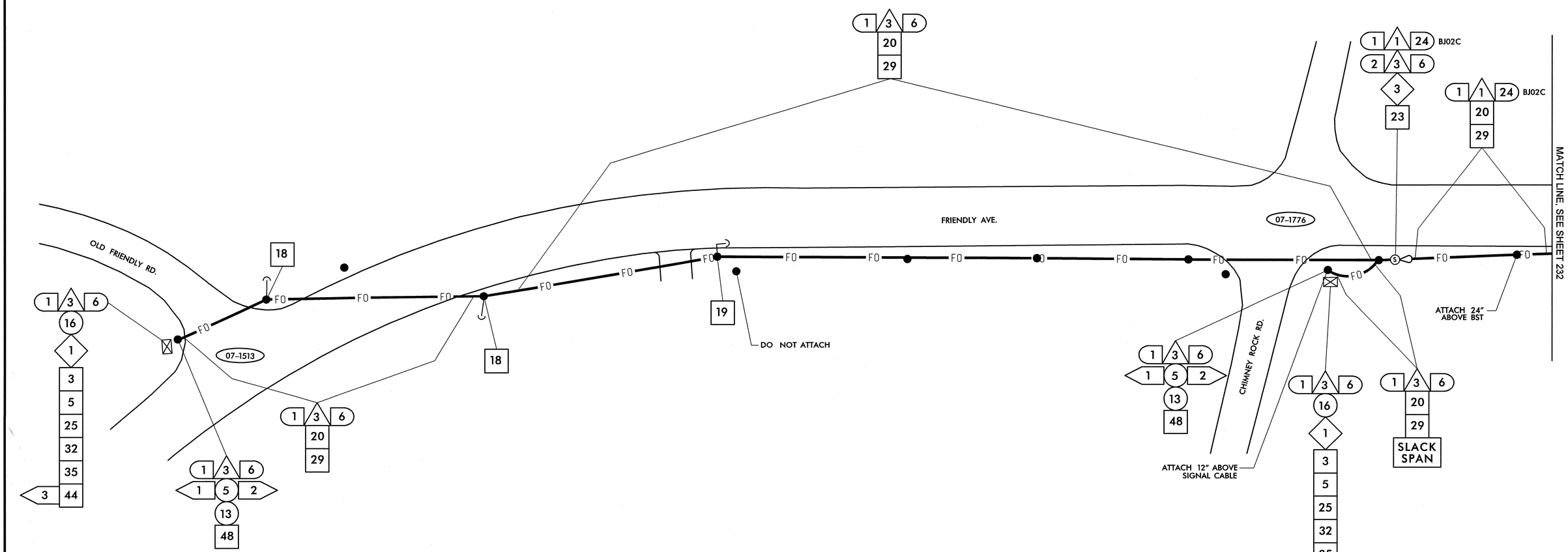
PROJECT REFERENCE NO.	SHEET NO.
U-4711	231



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8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Executive of North Carolina Department of Transportation
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0231.dgn

2/20/2008
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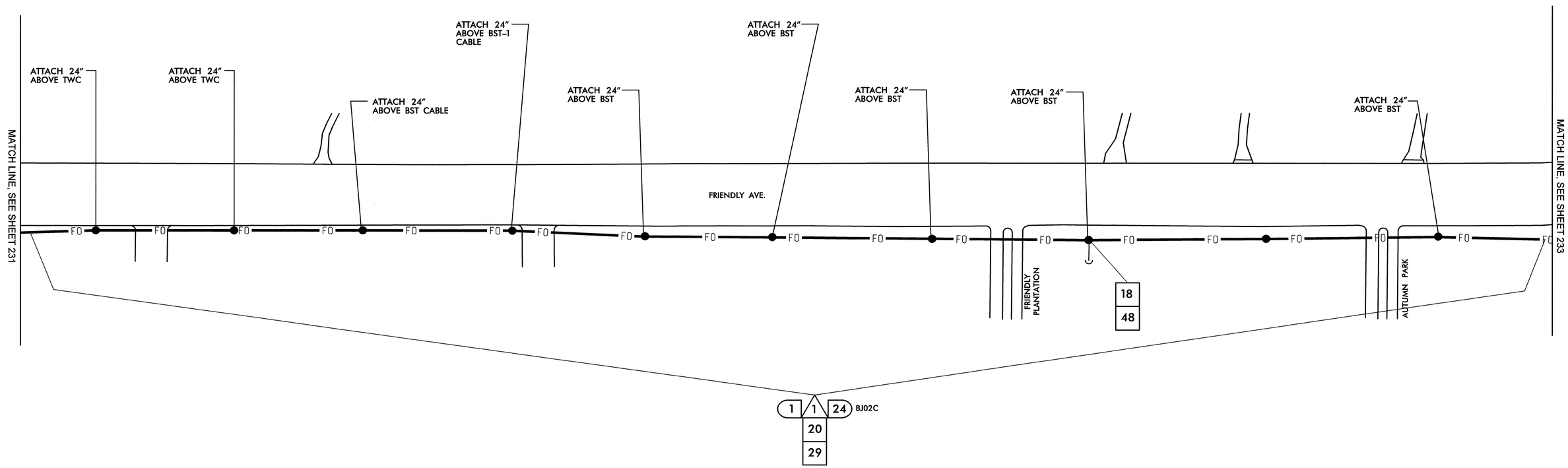
PROJECT REFERENCE NO.	SHEET NO.
U-4711	232



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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19	INSTALL SIDEWALK GUY ASSEMBLY
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23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
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32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
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39	INSTALL OMNI-DIRECTIONAL ANTENNA
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48	BOND MESSENGER CABLE TO POLE GROUND
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50	INSTALL ANTENNA CABLE
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52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Intermodal Transportation Division
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0232.dgn

2/20/2008
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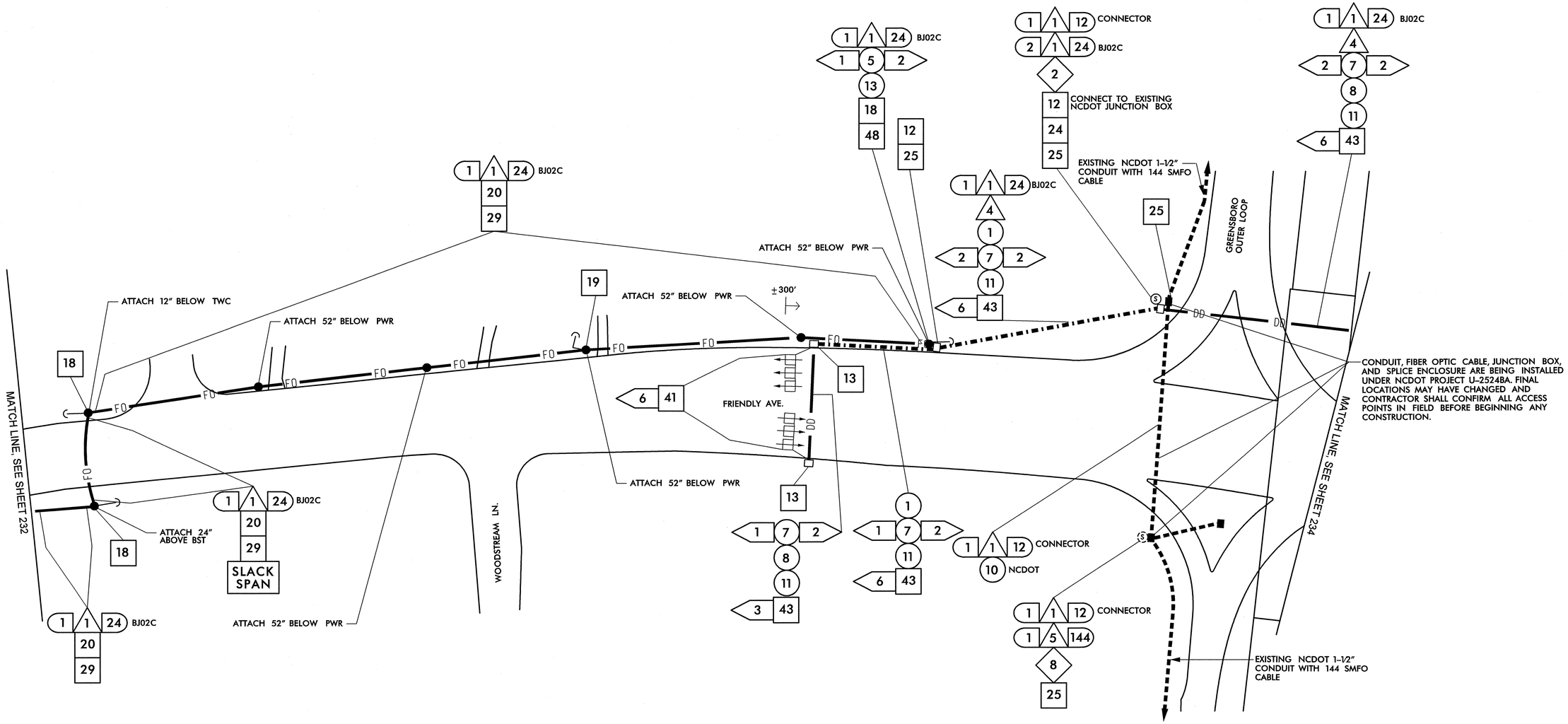
PROJECT REFERENCE NO.	SHEET NO.
U-4711	233



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
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18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
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1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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19	INSTALL SIDEWALK GUY ASSEMBLY
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety System Branch
Intelligent Transportation Systems
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0233.dgn

2/20/2008
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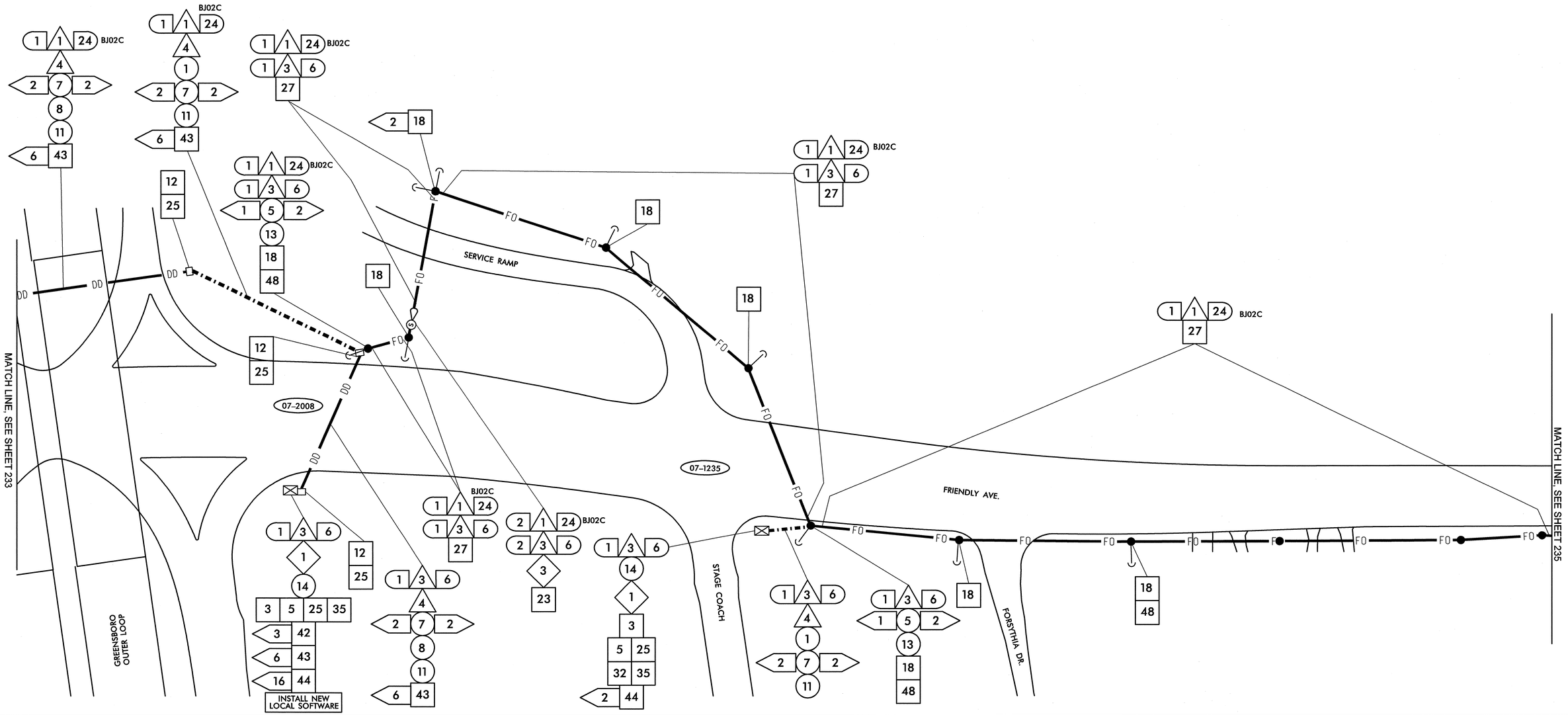
PROJECT REFERENCE NO.	SHEET NO.
U-4711	234



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE

26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
29	LASH CABLE(S) TO NEW MESSENGER CABLE	47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
30	INSTALL NEW ELECTRICAL SERVICE	48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
31	MODIFY EXISTING ELECTRICAL SERVICE	49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
32	INSTALL NEW CONTROLLER	50	INSTALL ANTENNA CABLE		
33	INSTALL EXISTING CABLE IN NEW CABINET	51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
34	INSTALL GENERATOR POWER INLET BOX	52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		
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43	INSTALL SYSTEM LOOP LEAD-IN CABLE				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0234.dgn

2/20/2008
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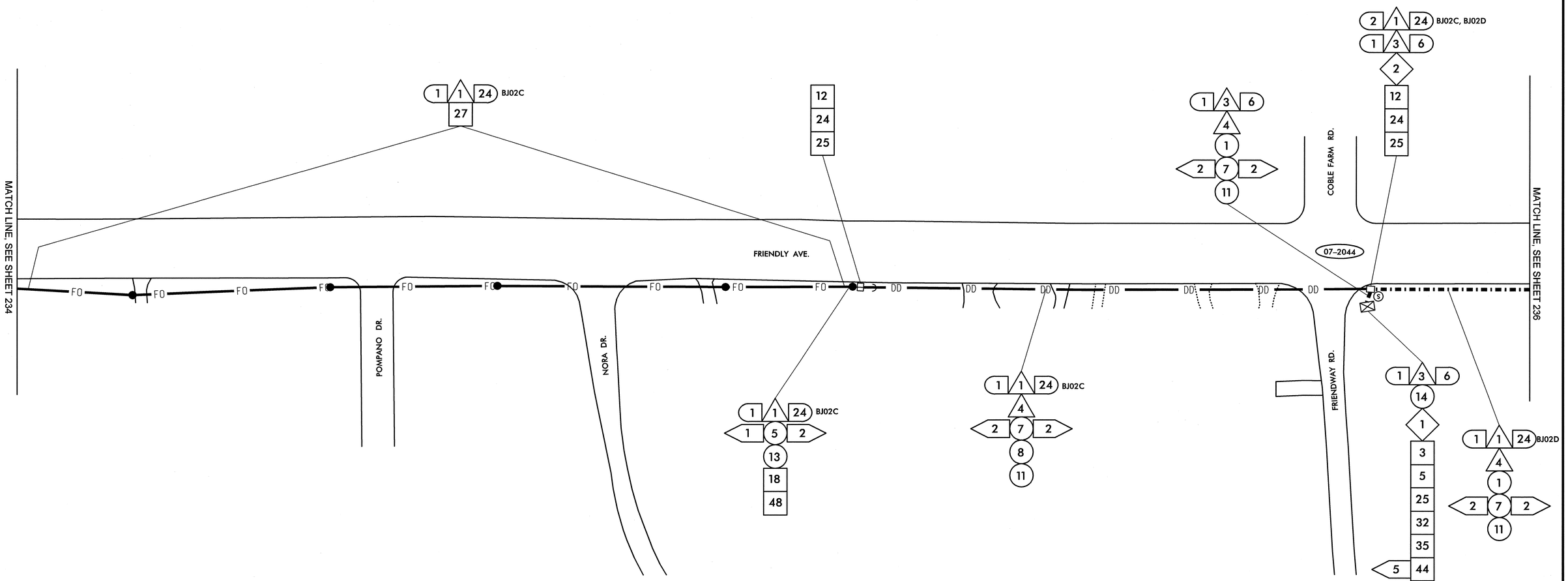
PROJECT REFERENCE NO.	SHEET NO.
U-4711	235



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
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5	REUSE NCDOT SMFO CABLE
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4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
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5	INSTALL NEW 332 BASE MOUNTED CABINET
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35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greensfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0235.dgn

2/20/2008
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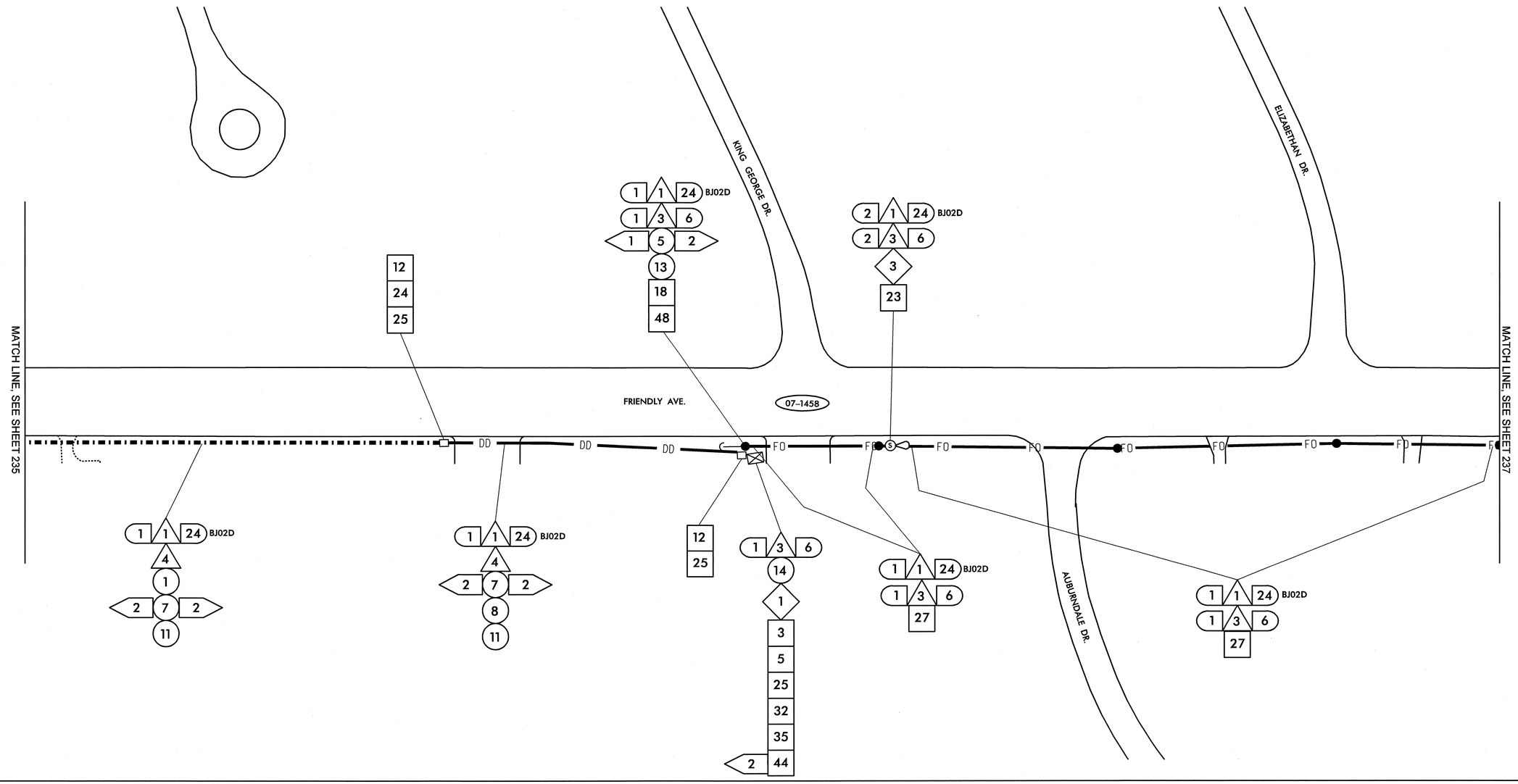
PROJECT REFERENCE NO.	SHEET NO.
U-4711	236



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH		
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE		
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER		
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR		
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT		
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE		
50	INSTALL ANTENNA CABLE				
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT				
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/24/08 DATE

CADD Filename: ...\Sht0236.dgn

2/20/2008
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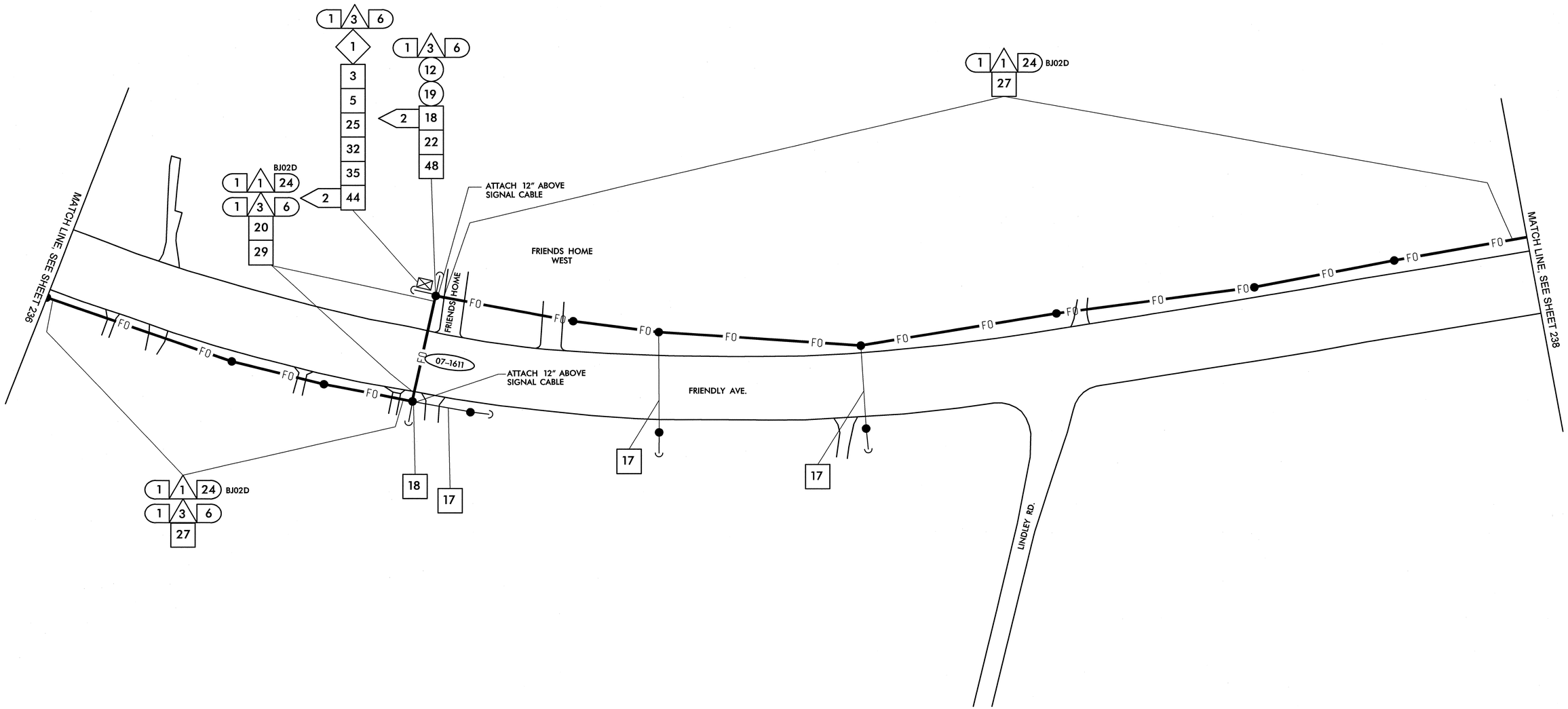
PROJECT REFERENCE NO.	SHEET NO.
U-4711	237



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
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53	INSTALL DSL ETHERNET SWITCH
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55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0237V.dgn

2/20/2008
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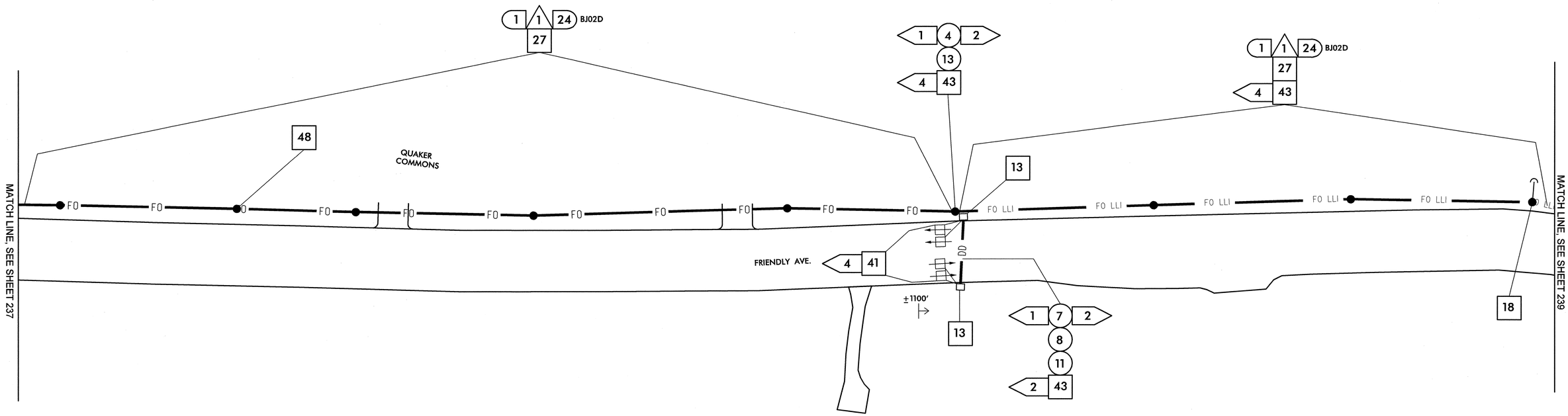
PROJECT REFERENCE NO.	SHEET NO.
U-4711	238



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
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12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
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2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
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5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
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29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
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32	INSTALL NEW CONTROLLER
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Raleigh N.C. 27636-3068
(919) 677-2000

Institute for South Eastern Transportation Management of Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0238.dgn

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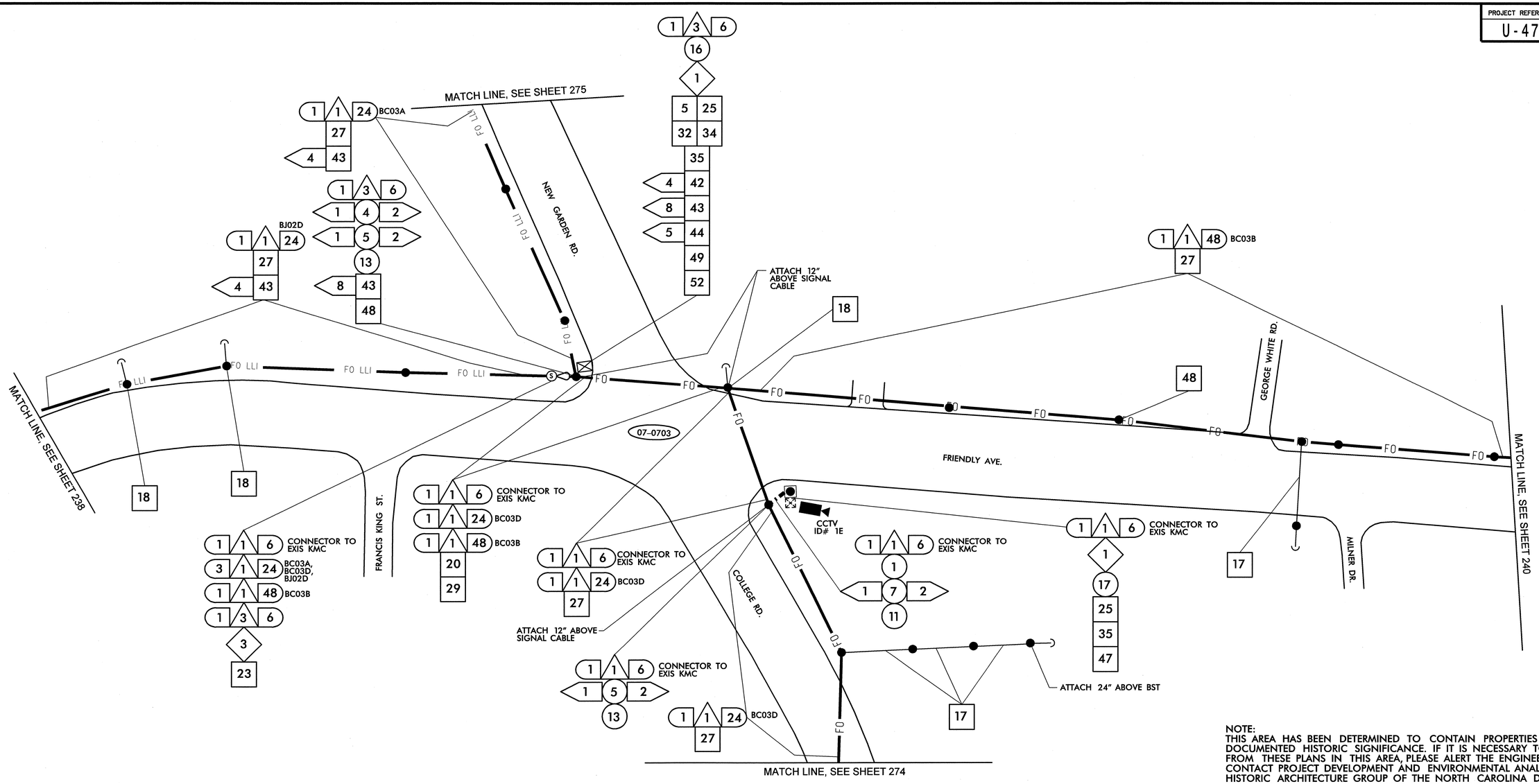
PROJECT REFERENCE NO.	SHEET NO.
U-4711	239



NOTE:
THIS AREA HAS BEEN DETERMINED TO CONTAIN PROPERTIES WITH DOCUMENTED HISTORIC SIGNIFICANCE. IF IT IS NECESSARY TO DEVIATE FROM THESE PLANS IN THIS AREA, PLEASE ALERT THE ENGINEER TO CONTACT PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH–HISTORIC ARCHITECTURE GROUP OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FOR AN EFFECTS DETERMINATION BEFORE PROCEEDING.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
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16. REMOVE EXISTING WOOD POLE
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21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
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48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

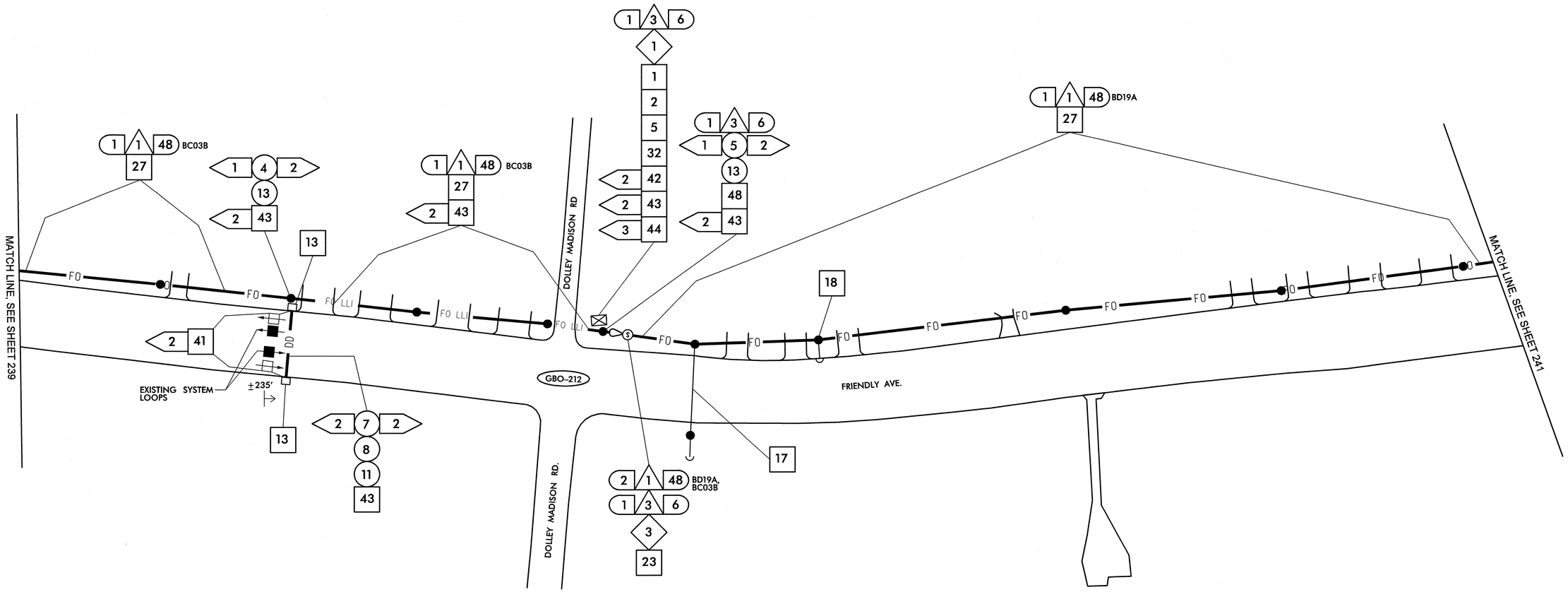
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0239.dgn

2/20/2008
f:\systems\projects\U4620\20 (g-bora mls)\Sht0239.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	240



NOTE:
THIS AREA HAS BEEN DETERMINED TO CONTAIN PROPERTIES WITH DOCUMENTED HISTORIC SIGNIFICANCE. IF IT IS NECESSARY TO DEVIATE FROM THESE PLANS IN THIS AREA, PLEASE ALERT THE ENGINEER TO CONTACT PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH–HISTORIC ARCHITECTURE GROUP OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FOR AN EFFECTS DETERMINATION BEFORE PROCEEDING.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE

1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING

1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE

1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNLO

SIGNATURE 2/29/08 DATE

CADD Filename ...\Sht0240m.dgn

2/29/2008
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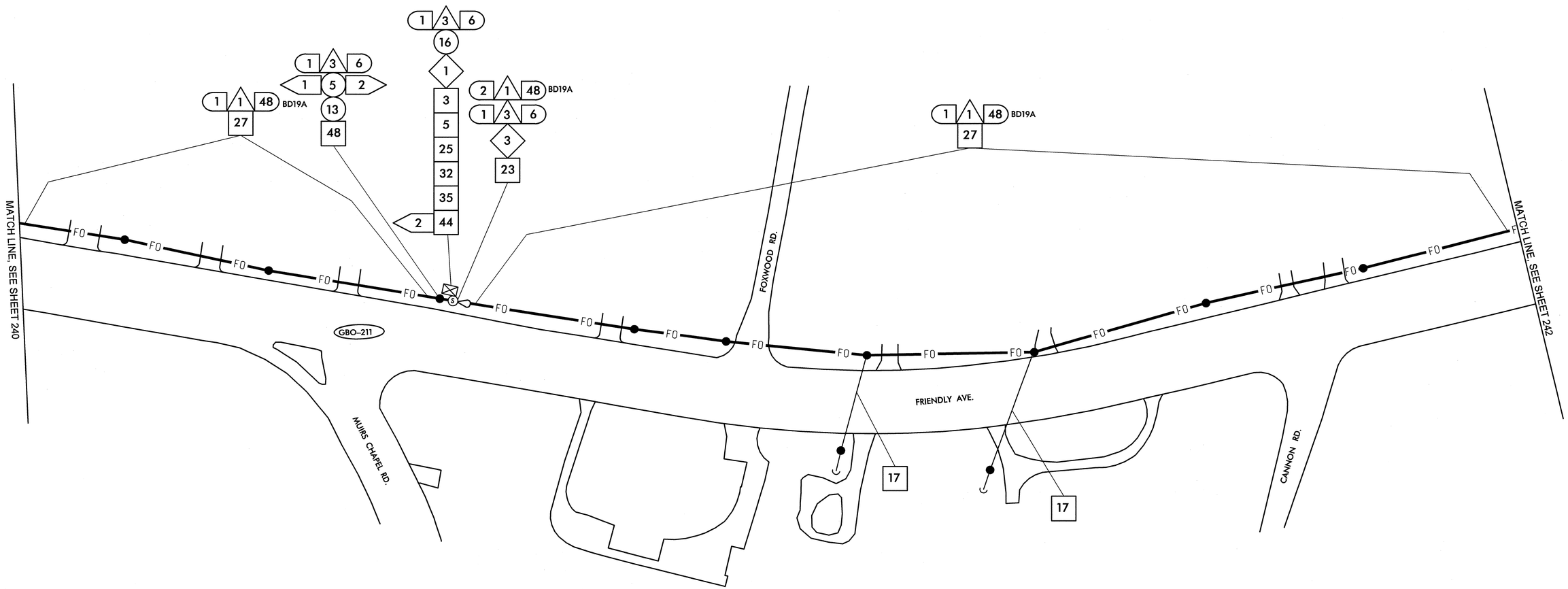
PROJECT REFERENCE NO.	SHEET NO.
U-4711	241



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2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
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6	REMOVE EXISTING SPLICE CABINET
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1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
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48	BOND MESSENGER CABLE TO POLE GROUND
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
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Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

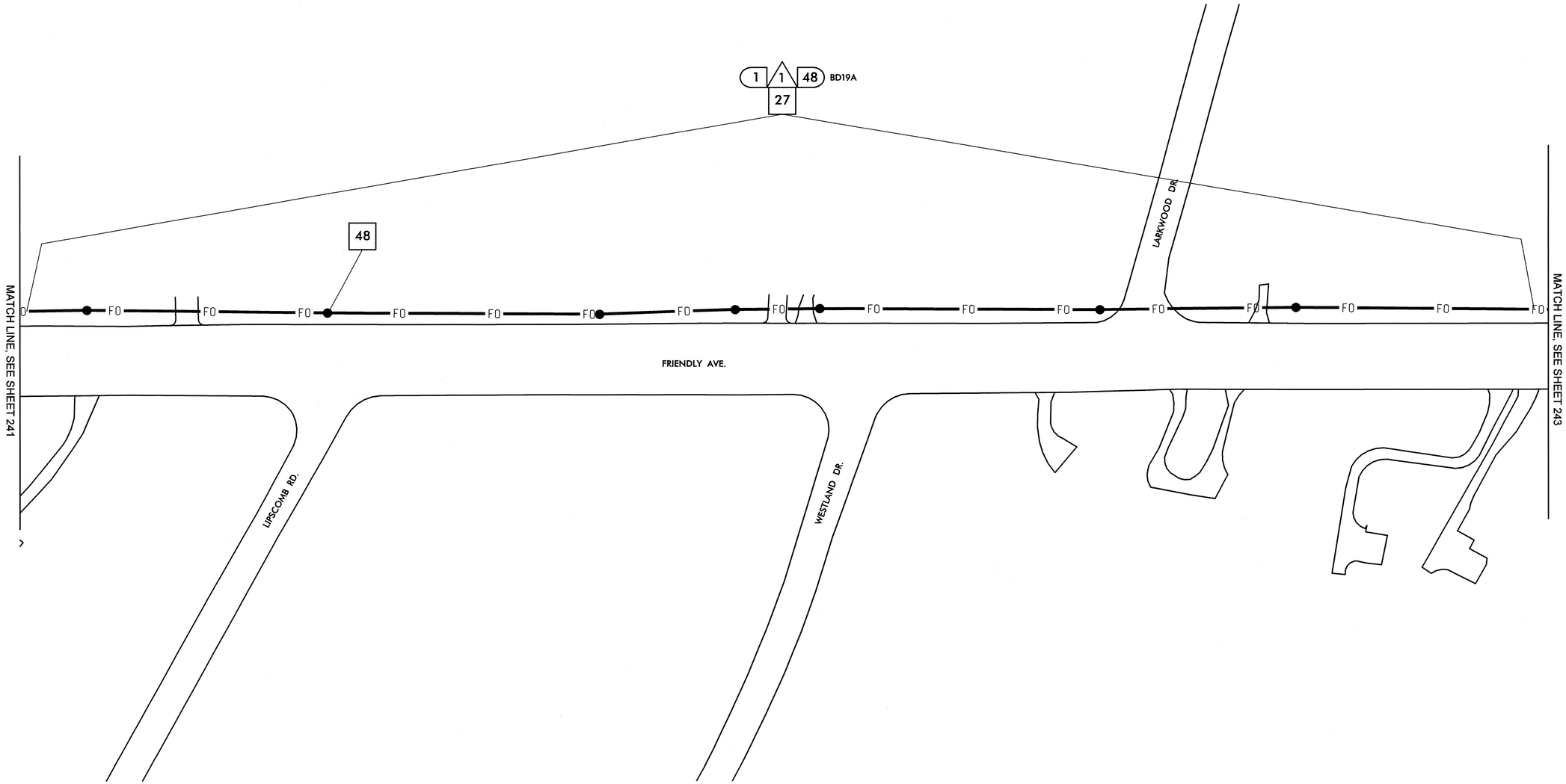
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0241.dgn

2/20/2008
h:\systems\proj\tests\U\462020 (g-boro mtsS)\H024\dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	242



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Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
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SIGNATURE 2/20/08 DATE

CADD Filenames ...\Sht0242.dgn

2/20/2008
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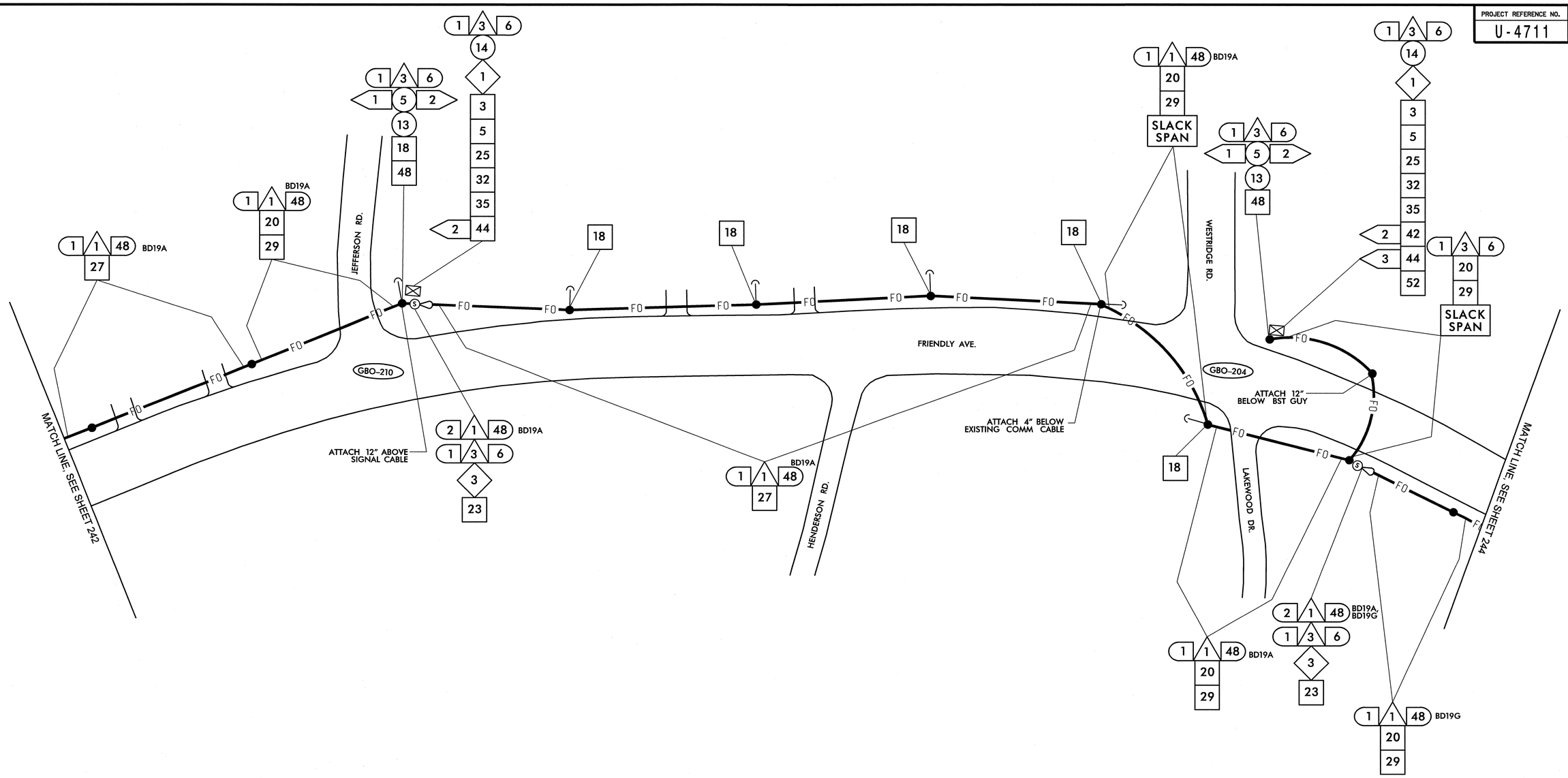
PROJECT REFERENCE NO.	SHEET NO.
U-4711	243



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P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0243m.dgn

2/20/2008
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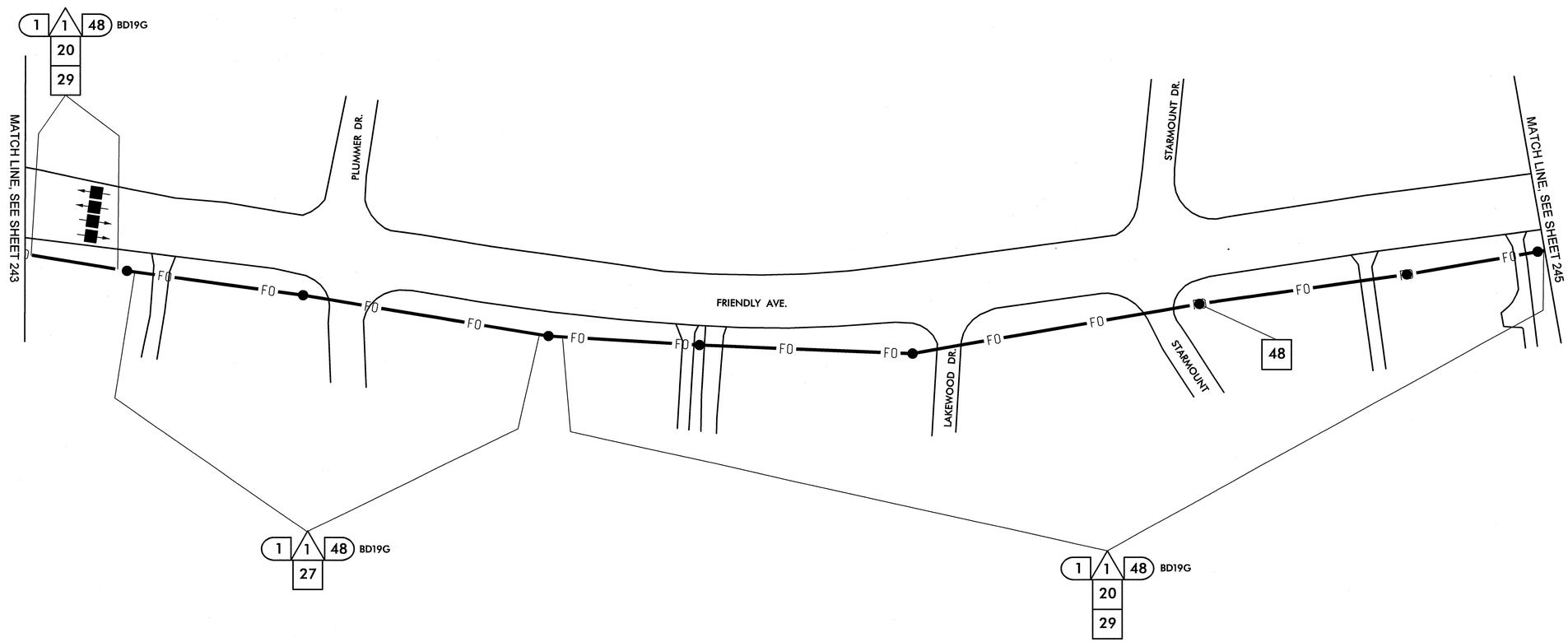
PROJECT REFERENCE NO.	SHEET NO.
U-4711	244



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/29/08 DATE

CADD Filename: ...\Sht0244m.dgn

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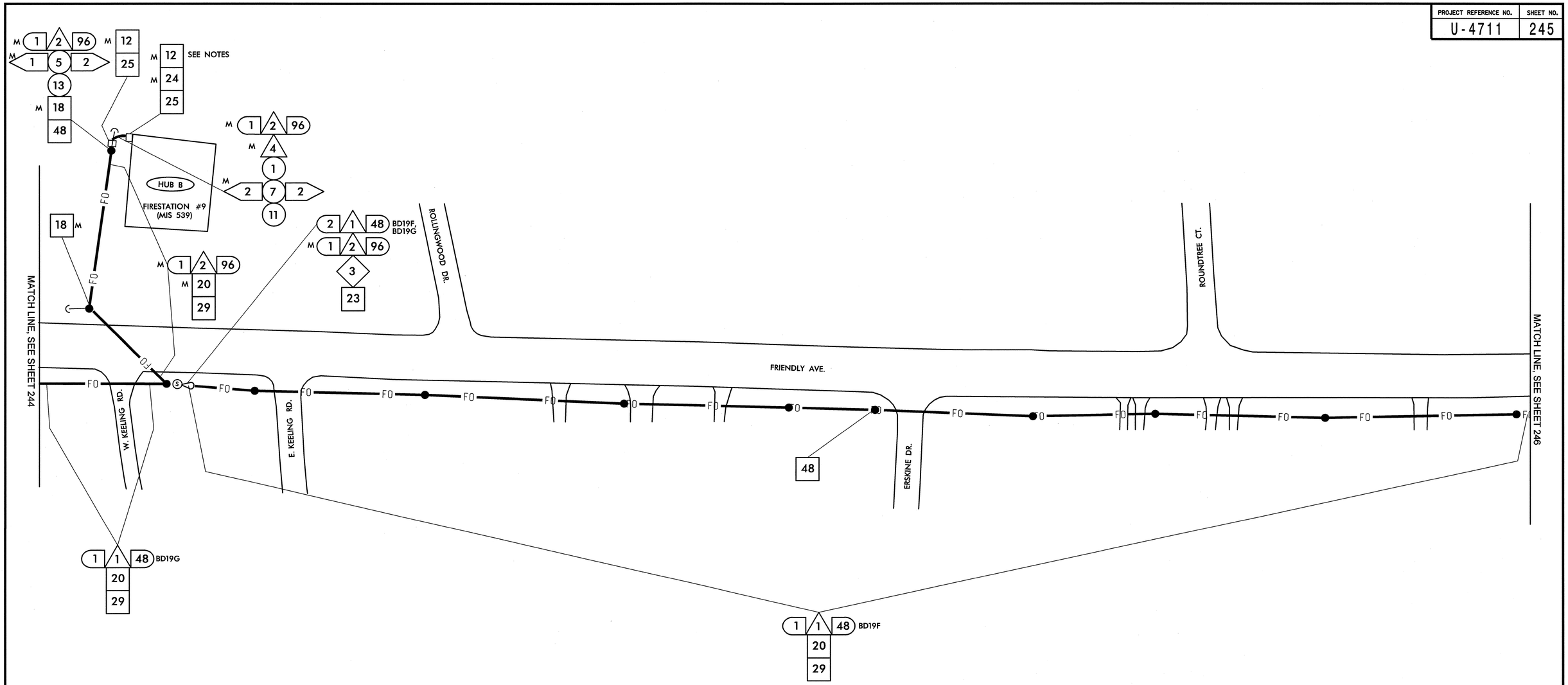
PROJECT REFERENCE NO.	SHEET NO.
U-4711	245



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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Traffic Engineering and Safety Systems Branch
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/29/08

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2/29/2008
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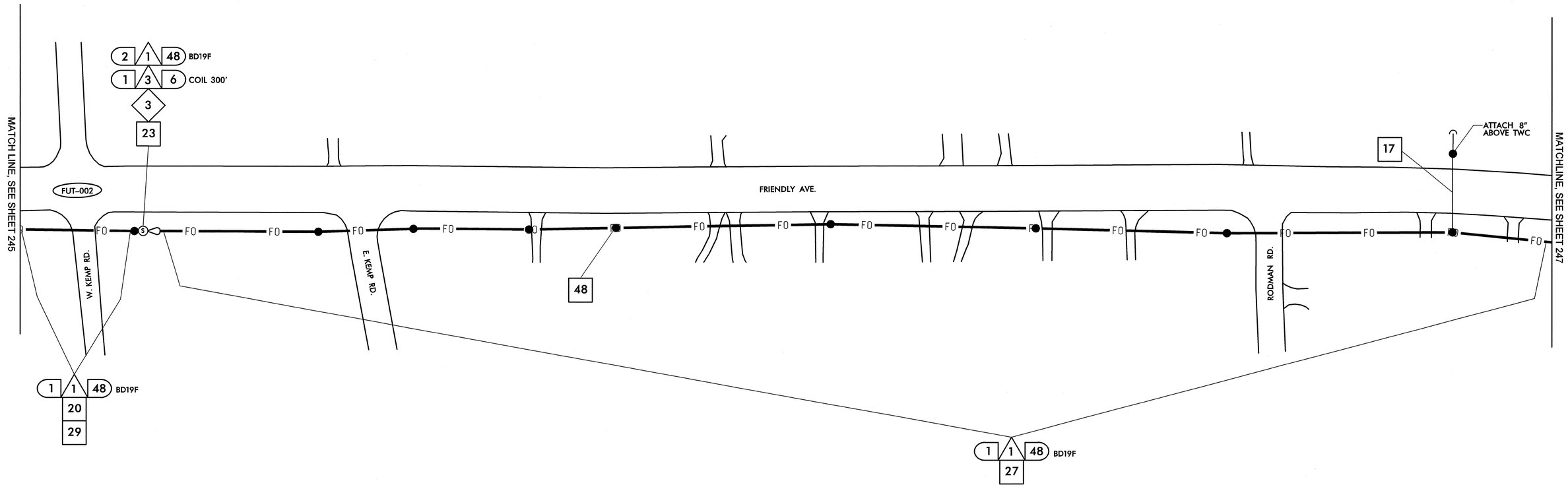
PROJECT REFERENCE NO.	SHEET NO.
U-4711	246



1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE

1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
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10. INSTALL CABLE(S) IN EXISTING CONDUIT
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15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING

1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE

1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
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19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
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23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
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47. INSTALL CODEC
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49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

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CADD Filename: ...\Sht0246.dgn

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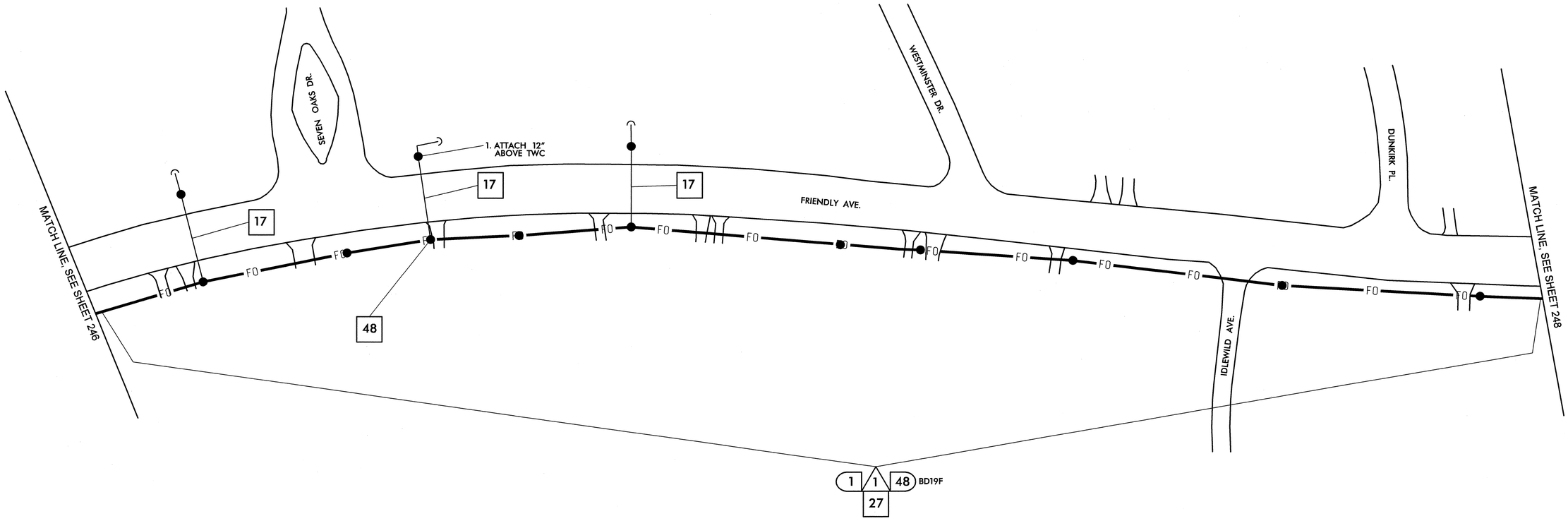
PROJECT REFERENCE NO.	SHEET NO.
U-4711	247



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44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
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DIVISION 7 GUILFORD COUNTY

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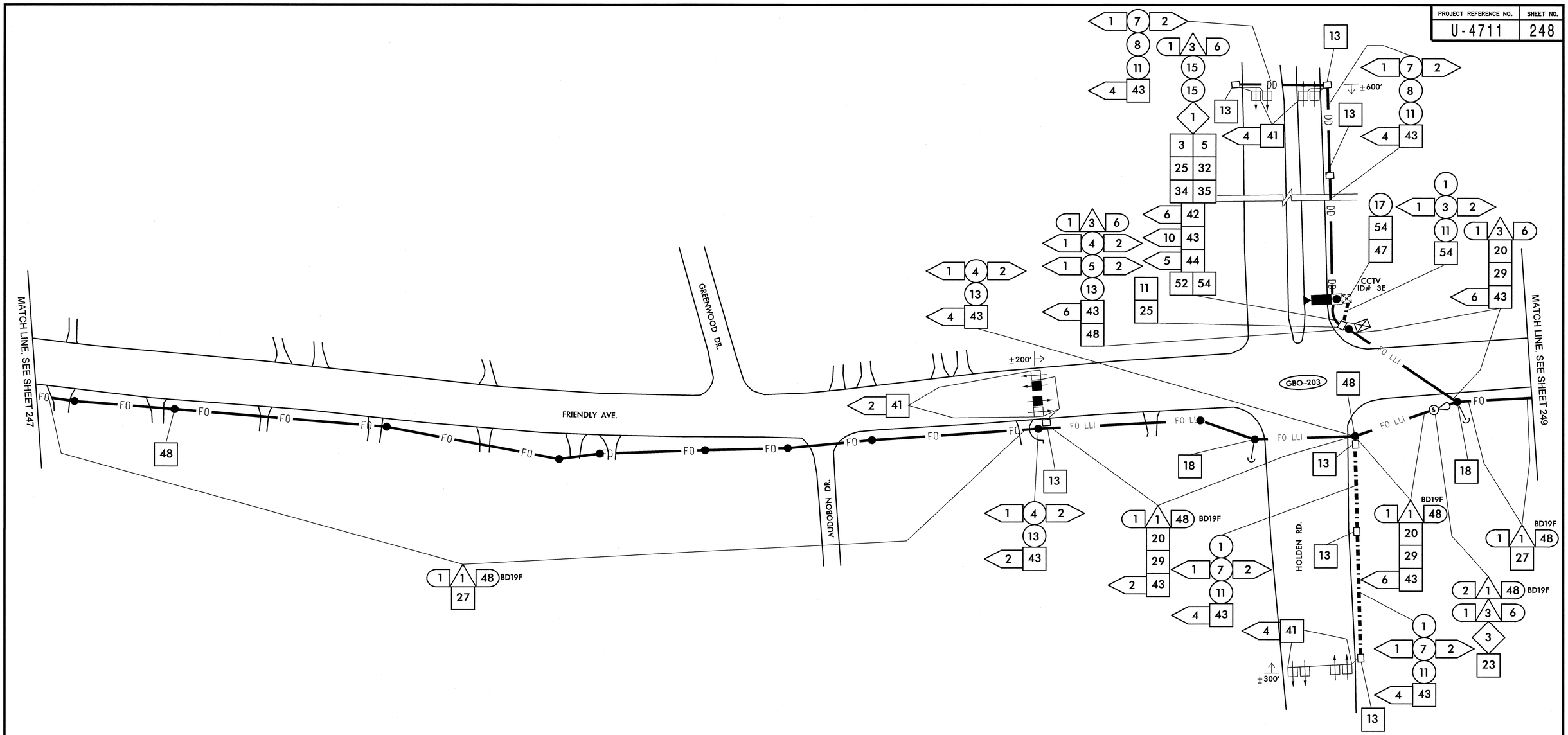
PROJECT REFERENCE NO.	SHEET NO.
U-4711	248



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0248.dgn

2/20/2008
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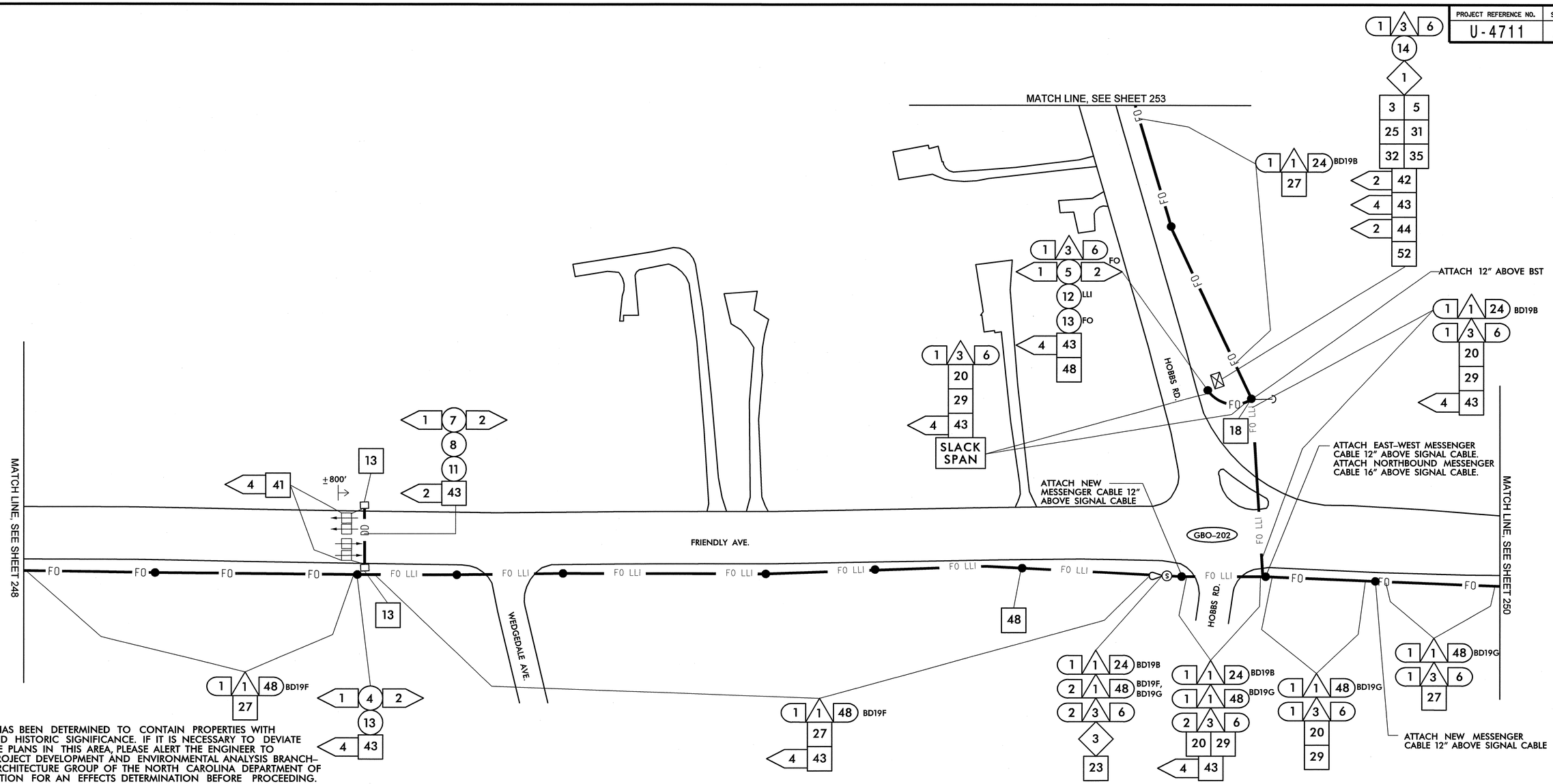
PROJECT REFERENCE NO.	SHEET NO.
U-4711	249



NOTE:
THIS AREA HAS BEEN DETERMINED TO CONTAIN PROPERTIES WITH DOCUMENTED HISTORIC SIGNIFICANCE. IF IT IS NECESSARY TO DEVIATE FROM THESE PLANS IN THIS AREA, PLEASE ALERT THE ENGINEER TO CONTACT PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH-HISTORIC ARCHITECTURE GROUP OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FOR AN EFFECTS DETERMINATION BEFORE PROCEEDING.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
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14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
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18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
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36. INSTALL UNIFIED CABLE
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39. INSTALL OMNI-DIRECTIONAL ANTENNA
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NOTE:
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PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
ENGINEERING DIVISION
DEPARTMENT OF TRANSPORTATION
STATE OF NORTH CAROLINA
Transportation Systems

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename ...\Sht0249.dgn

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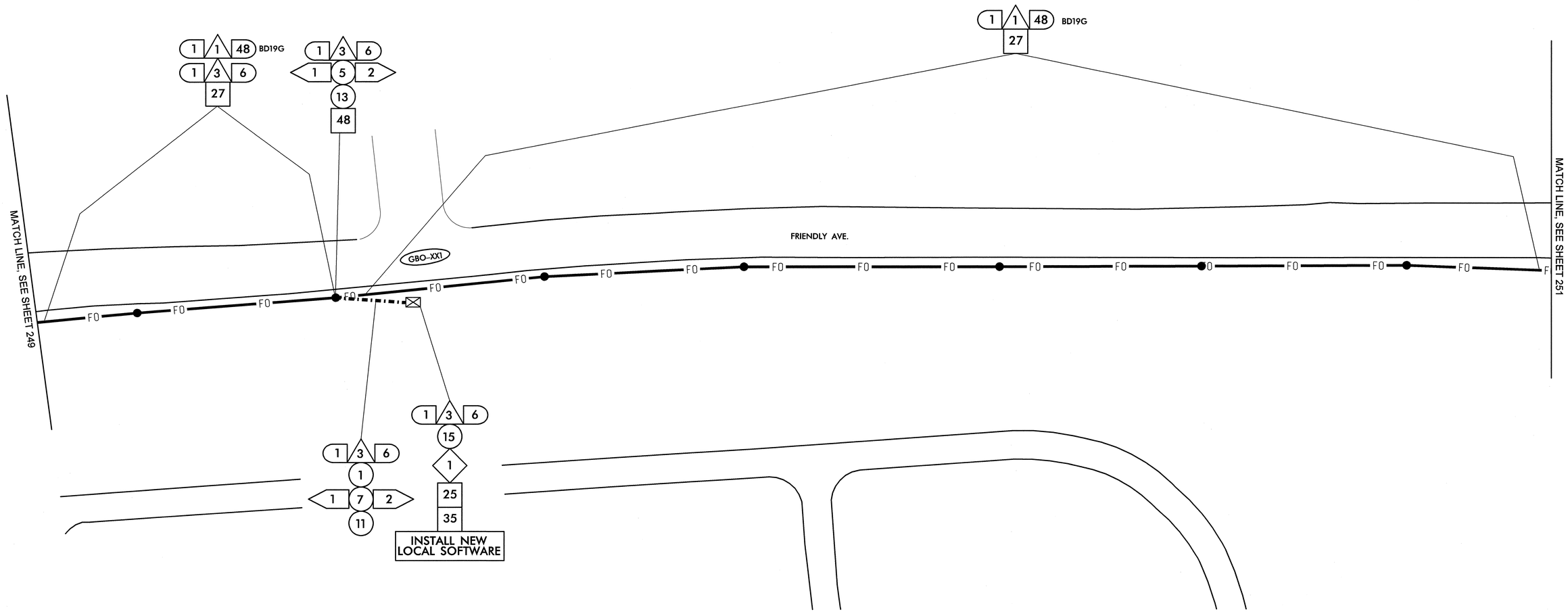
PROJECT REFERENCE NO.	SHEET NO.
U-4711	250



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7. INSTALL CCTV CAMERA ASSEMBLY
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58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transport Transportation
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0250.dgn

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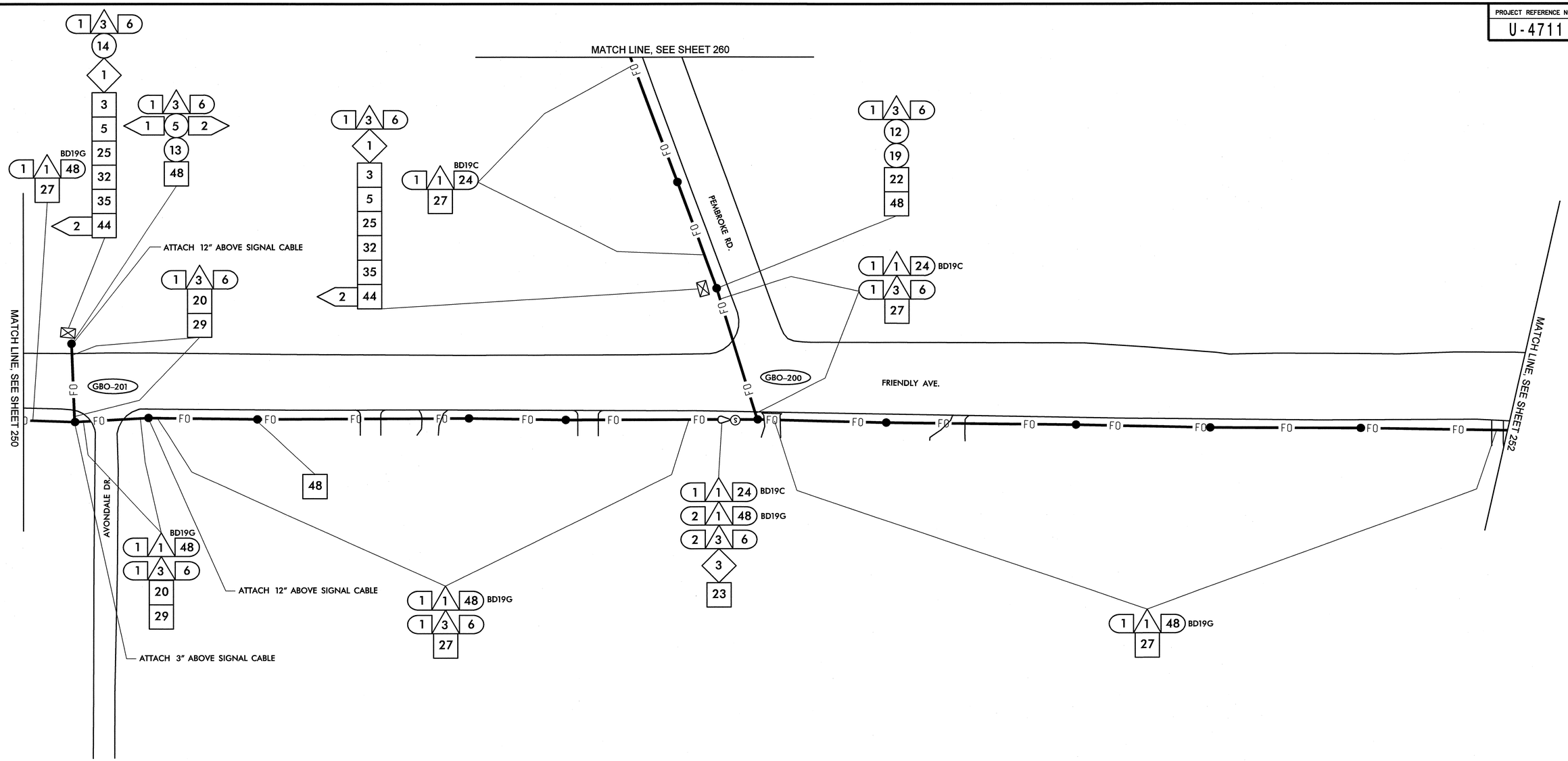
PROJECT REFERENCE NO.	SHEET NO.
U-4711	251



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CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0251.dgn

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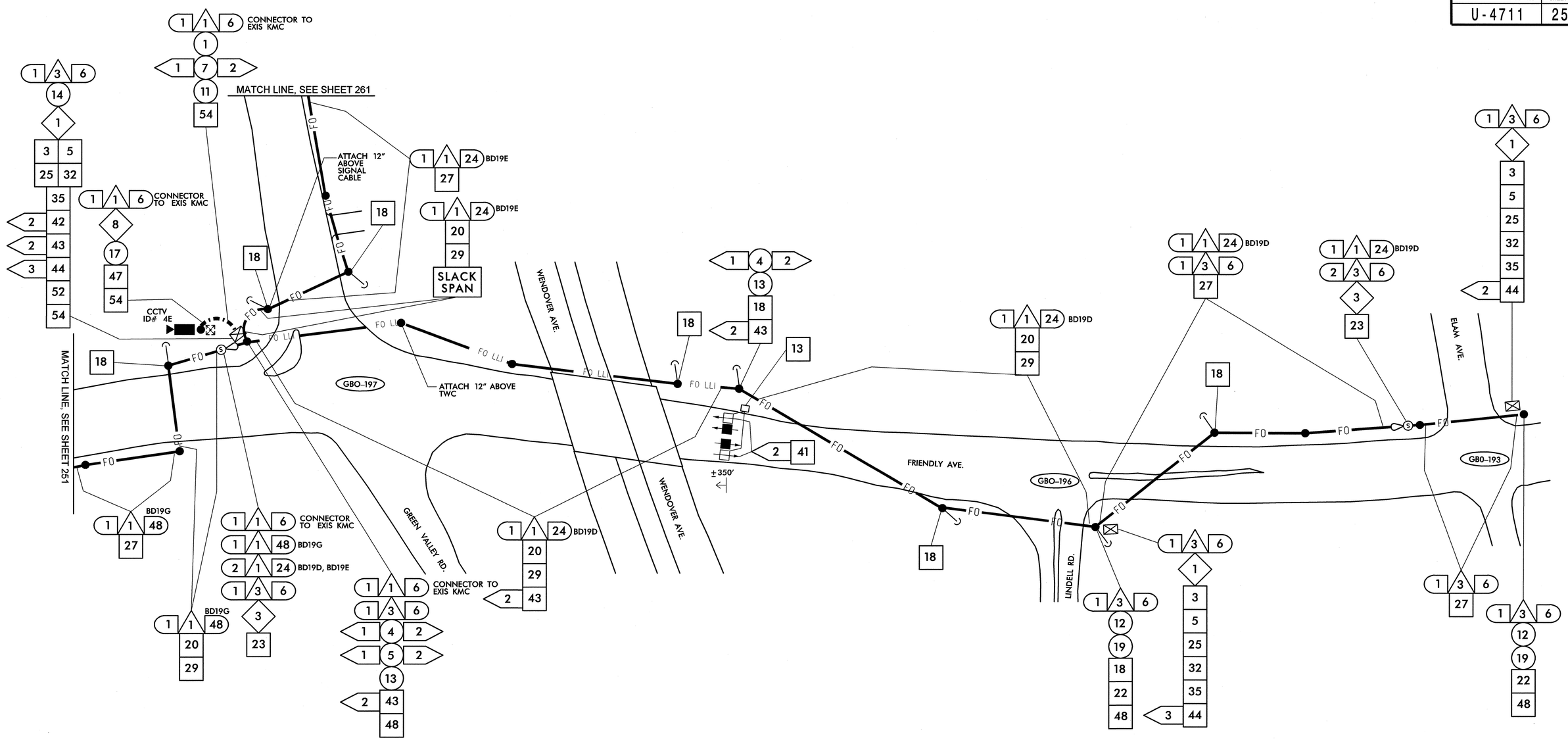
PROJECT REFERENCE NO.	SHEET NO.
U-4711	252



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/29/08

CADD Filename: ...\Sht0252.dgn

2/29/2008
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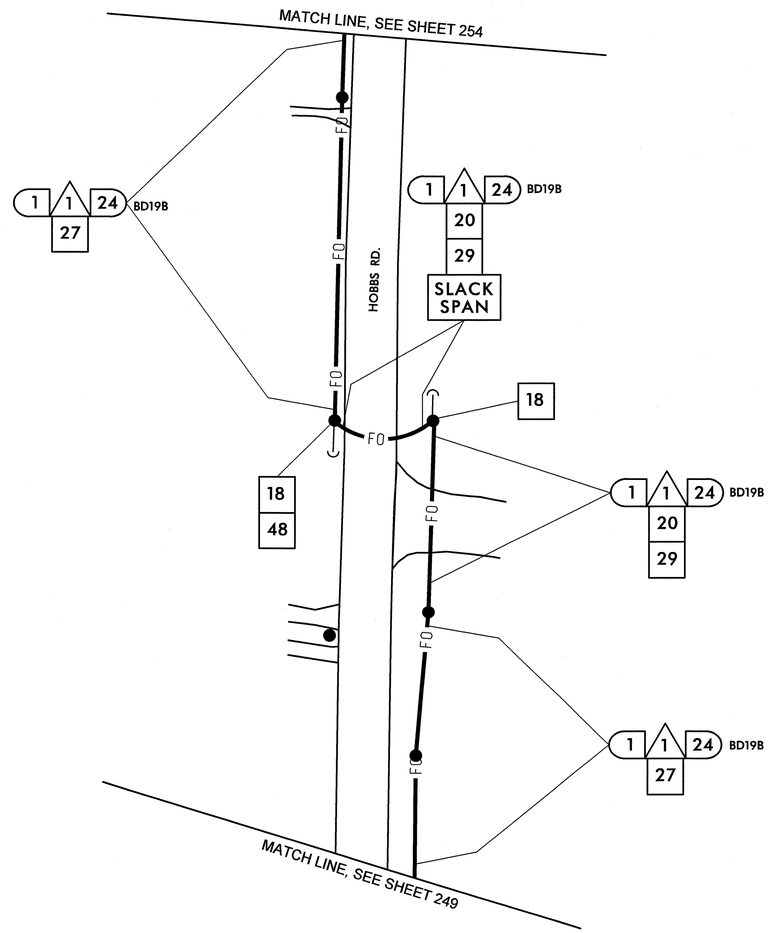
PROJECT REFERENCE NO.	SHEET NO.
U-4711	253



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH		
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE		
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER		
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR		
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT		
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE		
50	INSTALL ANTENNA CABLE				
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT				
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

N

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0253.dgn

2/20/2008
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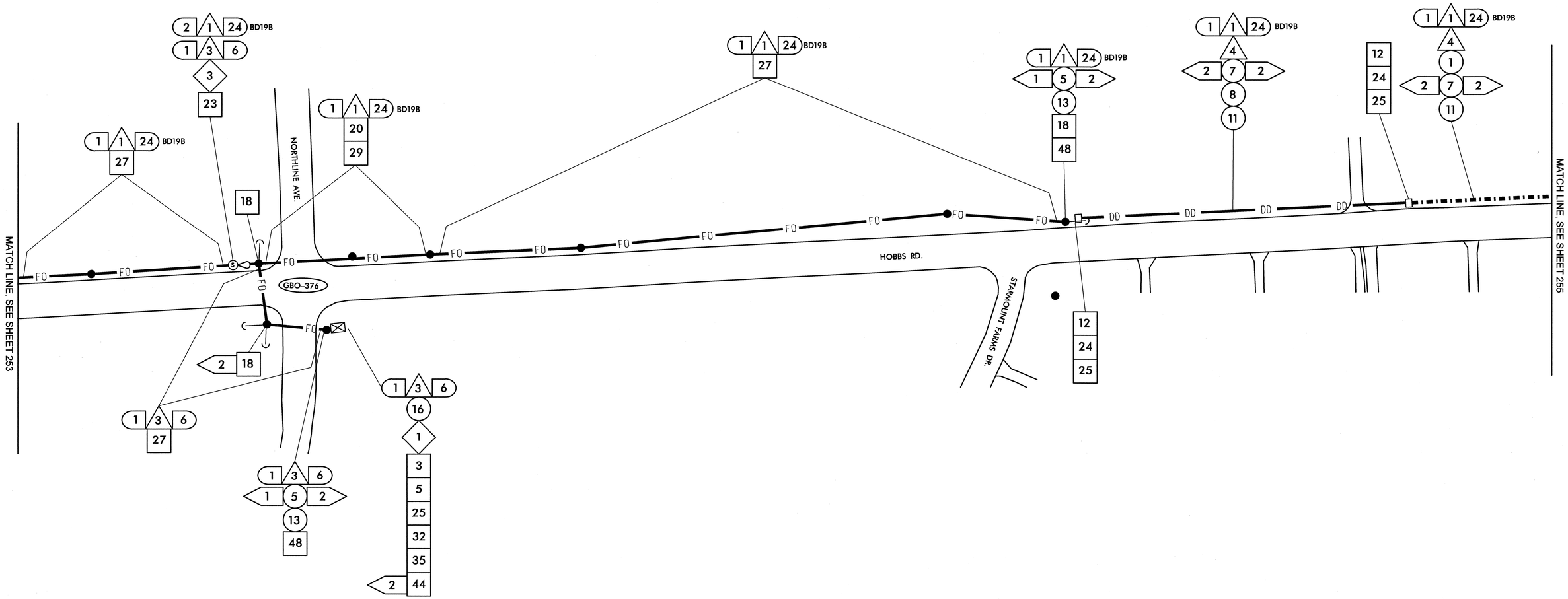
PROJECT REFERENCE NO.	SHEET NO.
U-4711	254



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0254.dgn

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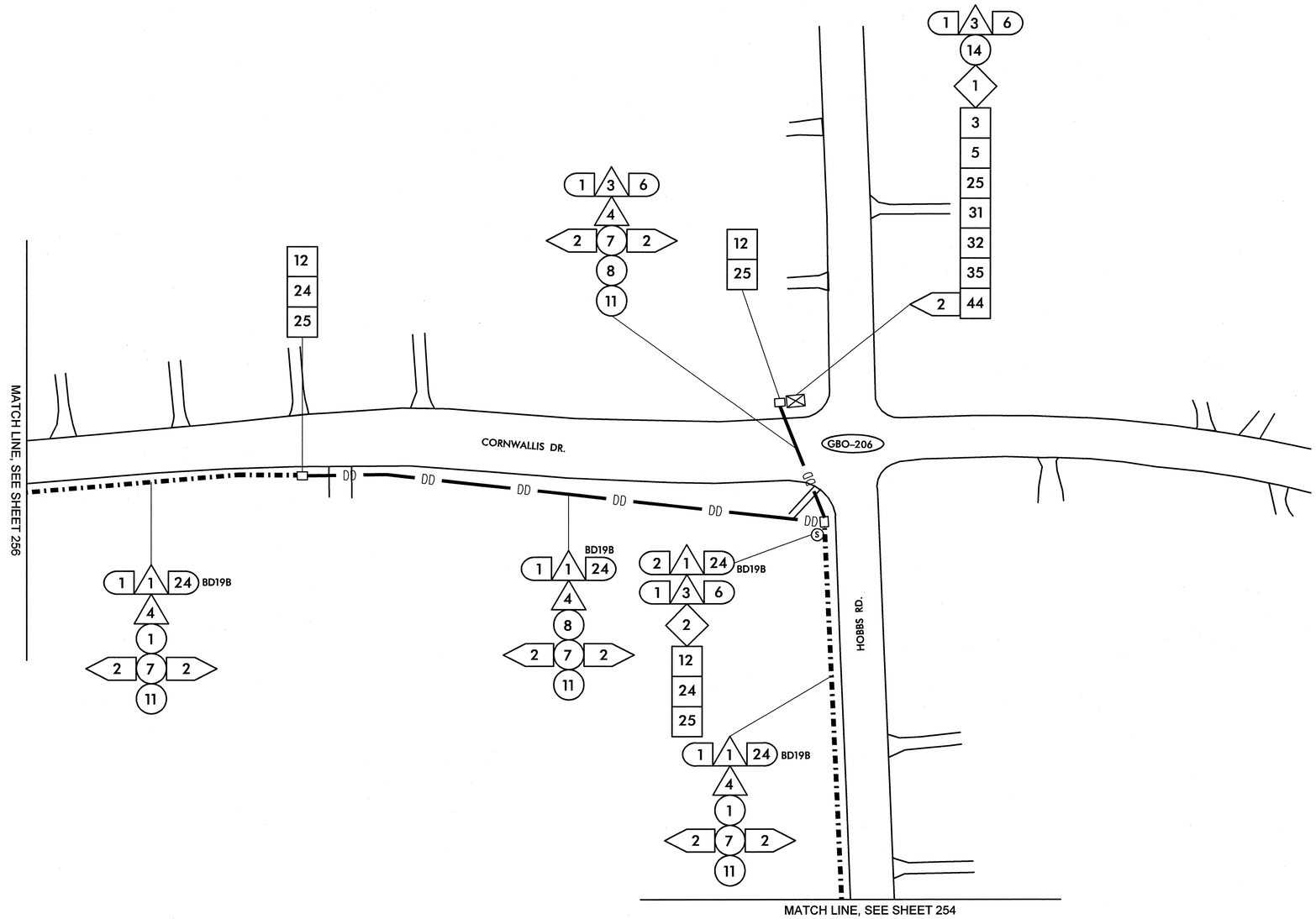
PROJECT REFERENCE NO.	SHEET NO.
U-4711	255



1 INSTALL SMFO CABLE	14 INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6 INSTALL NEW 336S CABINET	26 STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2 INSTALL PLENUM RATED FIBER OPTIC CABLE	15 INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7 INSTALL CCTV CAMERA ASSEMBLY	27 LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3 INSTALL FIBER OPTIC DROP CABLE	16 INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8 INSTALL CCTV CAMERA WOOD POLE	28 LASH CABLE(S) TO EXISTING MESSENGER CABLE
4 INSTALL TRACER WIRE	17 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9 INSTALL CCTV METAL POLE AND FOUNDATION	29 LASH CABLE(S) TO NEW MESSENGER CABLE
5 REUSE NCDOT SMFO CABLE	18 INSTALL NEW RISER INTO POLE MOUNTED CABINET	10 INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30 INSTALL NEW ELECTRICAL SERVICE
6 REUSE GDOT SMFO CABLE	19 REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11 INSTALL SPECIAL OVERSIZED JUNCTION BOX	31 MODIFY EXISTING ELECTRICAL SERVICE
1 TRENCH	1 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12 INSTALL OVERSIZED JUNCTION BOX	32 INSTALL NEW CONTROLLER
2 INSTALL PVC CONDUIT	2 INSTALL UNDERGROUND SPLICE ENCLOSURE	13 INSTALL STANDARD JUNCTION BOX	33 INSTALL EXISTING CABLE IN NEW CABINET
3 INSTALL RIGID, GALVANIZED STEEL CONDUIT	3 INSTALL AERIAL SPLICE ENCLOSURE	14 REMOVE EXISTING JUNCTION BOX	34 INSTALL GENERATOR POWER INLET BOX
4 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4 INSTALL POLE MOUNTED SPLICE CABINET	15 INSTALL WOOD POLE	35 INSTALL LOCAL GIGABIT ETHERNET SWITCH
5 INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5 INSTALL BASE MOUNTED SPLICE CABINET	16 REMOVE EXISTING WOOD POLE	36 INSTALL UNIFIED CABLE
6 INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6 REMOVE EXISTING SPLICE CABINET	17 INSTALL AERIAL GUY ASSEMBLY	37 INSTALL POLE MOUNTED EQUIPMENT CABINET
7 INSTALL POLYETHYLENE CONDUIT	7 INSTALL TERMINAL SPLICE BOX	18 INSTALL STANDARD GUY ASSEMBLY	38 INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8 DIRECTIONAL DRILL CONDUIT	8 MODIFY EXISTING SPLICE ENCLOSURE	19 INSTALL SIDEWALK GUY ASSEMBLY	39 INSTALL OMNI-DIRECTIONAL ANTENNA
9 BORE AND JACK CONDUIT	1 INSTALL CABINET FOUNDATION	20 INSTALL MESSENGER CABLE	40 INSTALL RADIO TRANSCEIVER
10 INSTALL CABLE(S) IN EXISTING CONDUIT	2 REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41 INSTALL SYSTEM LOOP
11 INSTALL CABLE(S) IN NEW CONDUIT	3 MODIFY EXISTING CABINET FOUNDATION	22 REMOVE EXISTING COMMUNICATIONS CABLE	42 INSTALL SYSTEM LOOP AMPLIFIER
12 INSTALL CABLE(S) IN EXISTING RISER	4 INSTALL NEW 333 COMMUNICATION CABINET	23 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43 INSTALL SYSTEM LOOP LEAD-IN CABLE
13 INSTALL CABLE(S) IN NEW RISER	5 INSTALL NEW 332 BASE MOUNTED CABINET	24 INSTALL DELINEATOR MARKER	
		25 STORE 30 FEET OF EACH COMMUNICATIONS CABLE	

44 INSTALL LOCAL LOOP AMPLIFIER	53 INSTALL DSL ETHERNET SWITCH	
45 INSTALL CITY WI-FI ANTENNA	54 INSTALL ETHERNET CABLE	
46 INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55 INSTALL TERMINAL SERVER	
47 INSTALL CODEC	56 INSTALL MICROWAVE VEHICLE DETECTOR	
48 BOND MESSENGER CABLE TO POLE GROUND	57 INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT	
49 INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58 INSTALL WIRELESS ACCESS POINT POWER CABLE	
50 INSTALL ANTENNA CABLE		
51 RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52 RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0255.dgn

2/20/2008
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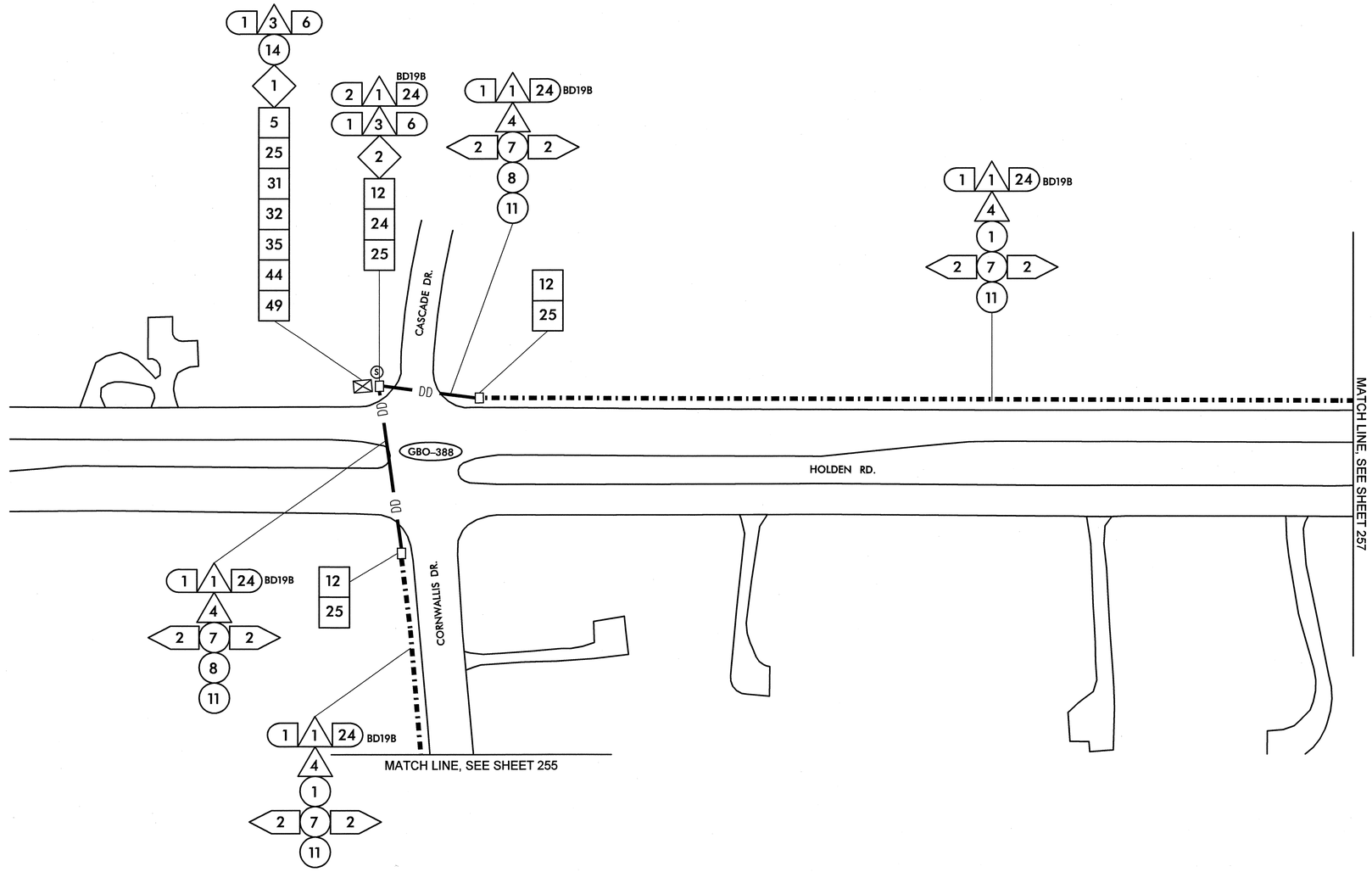
PROJECT REFERENCE NO.	SHEET NO.
U-4711	256



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
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3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH		
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE		
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER		
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR		
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT		
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE		
50	INSTALL ANTENNA CABLE				
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT				
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/26/08 DATE

CADD Filename: ...\Sht0256.dgn

2/20/2008
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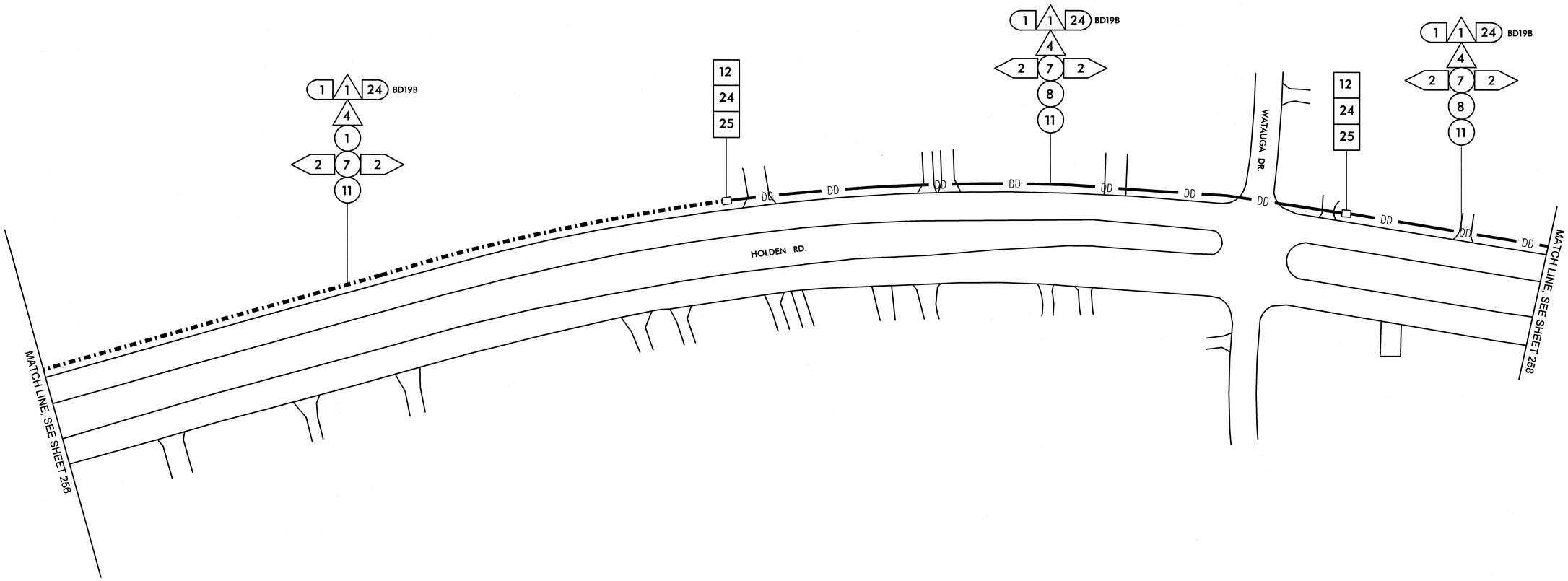
PROJECT REFERENCE NO.	SHEET NO.
U-4711	257



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
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6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
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22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
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56	INSTALL MICROWAVE VEHICLE DETECTOR
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
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Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/29/08 DATE

CADD Filename: ...\Sht0257.dgn

2/20/2008
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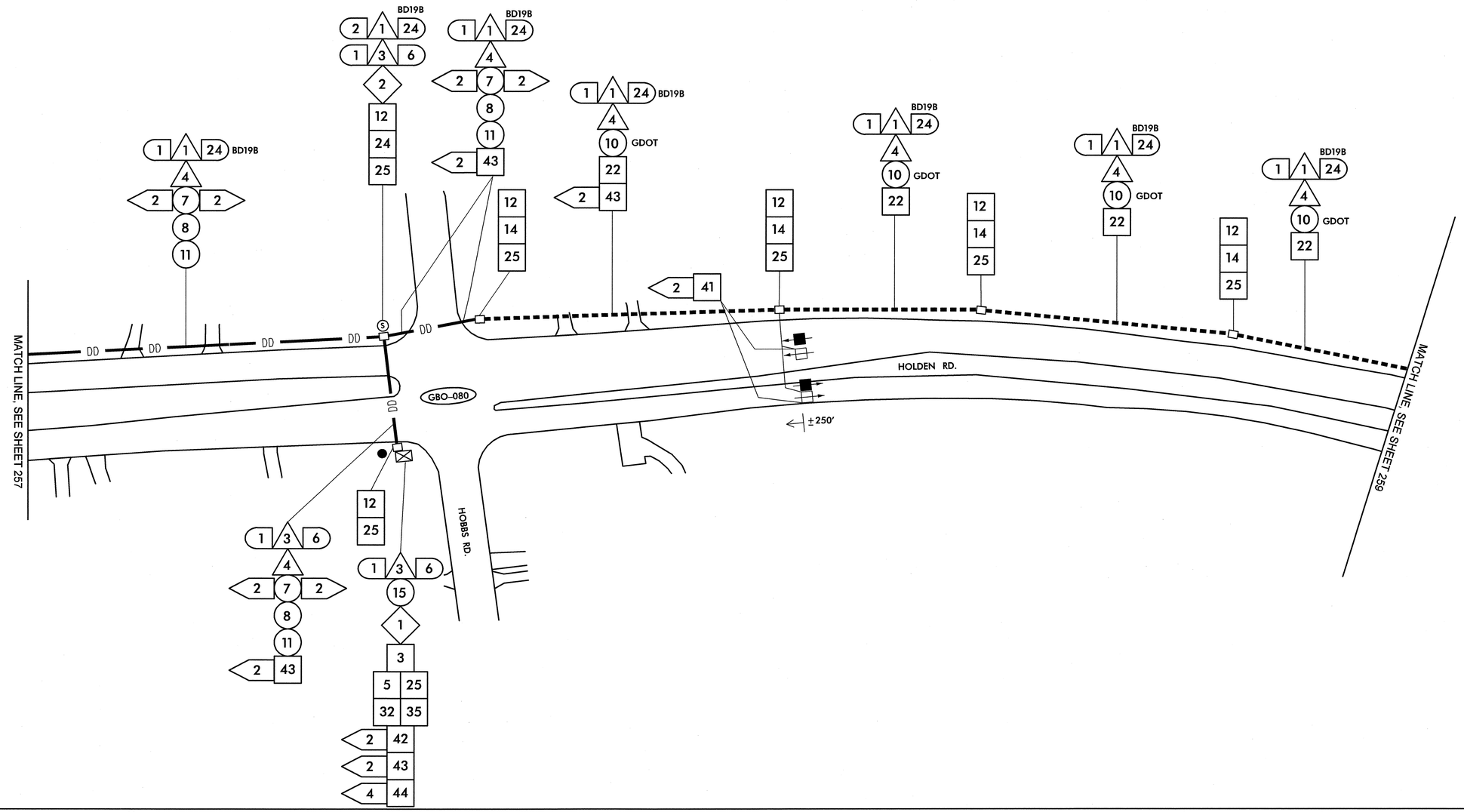
PROJECT REFERENCE NO.	SHEET NO.
U-4711	258



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7	INSTALL CCTV CAMERA ASSEMBLY
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0258.dgn

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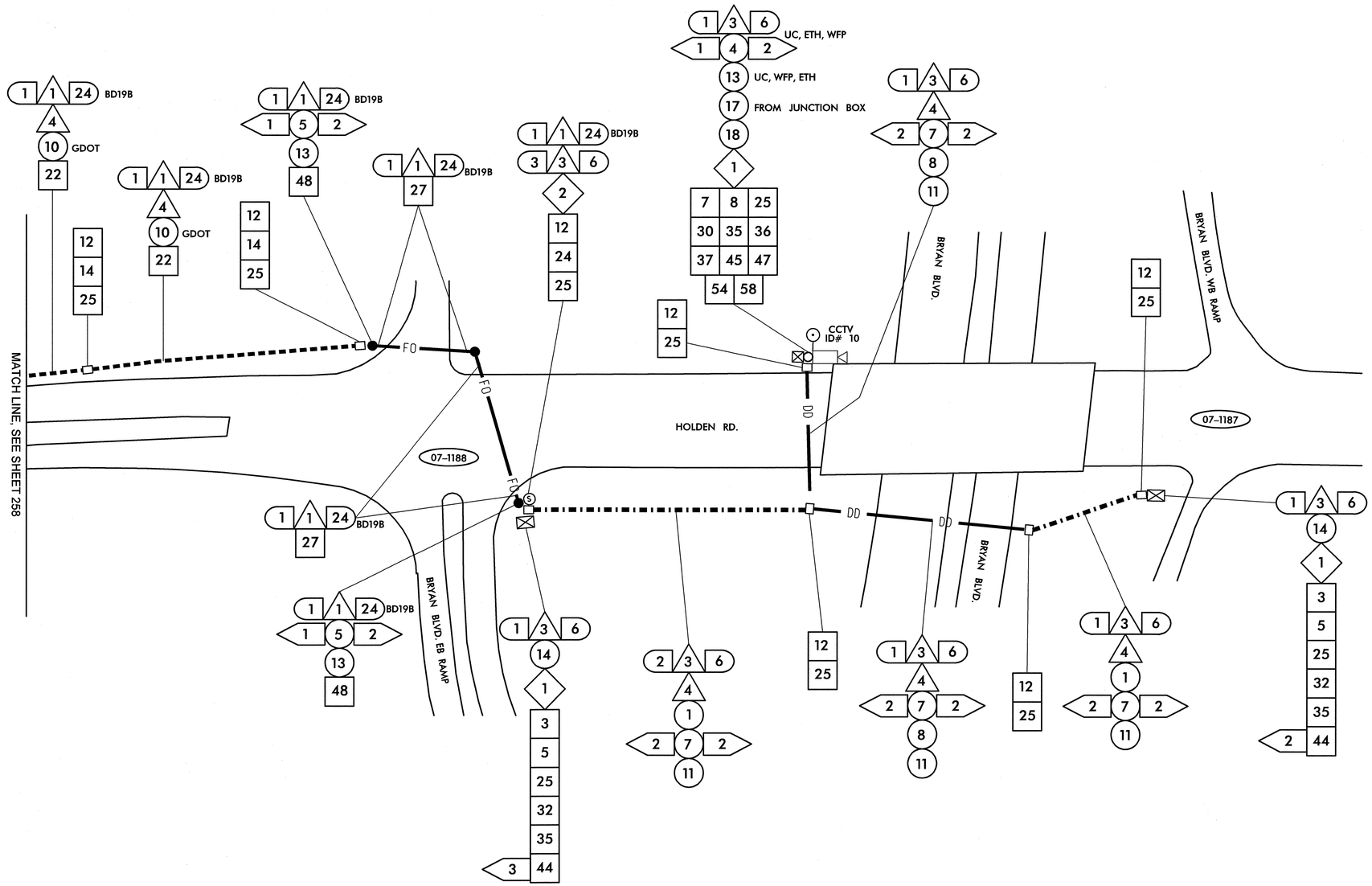
PROJECT REFERENCE NO.	SHEET NO.
U-4711	259



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NOTE:
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PLANS PREPARED IN THE OFFICE OF:

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Public Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0259.dgn

2/20/2008
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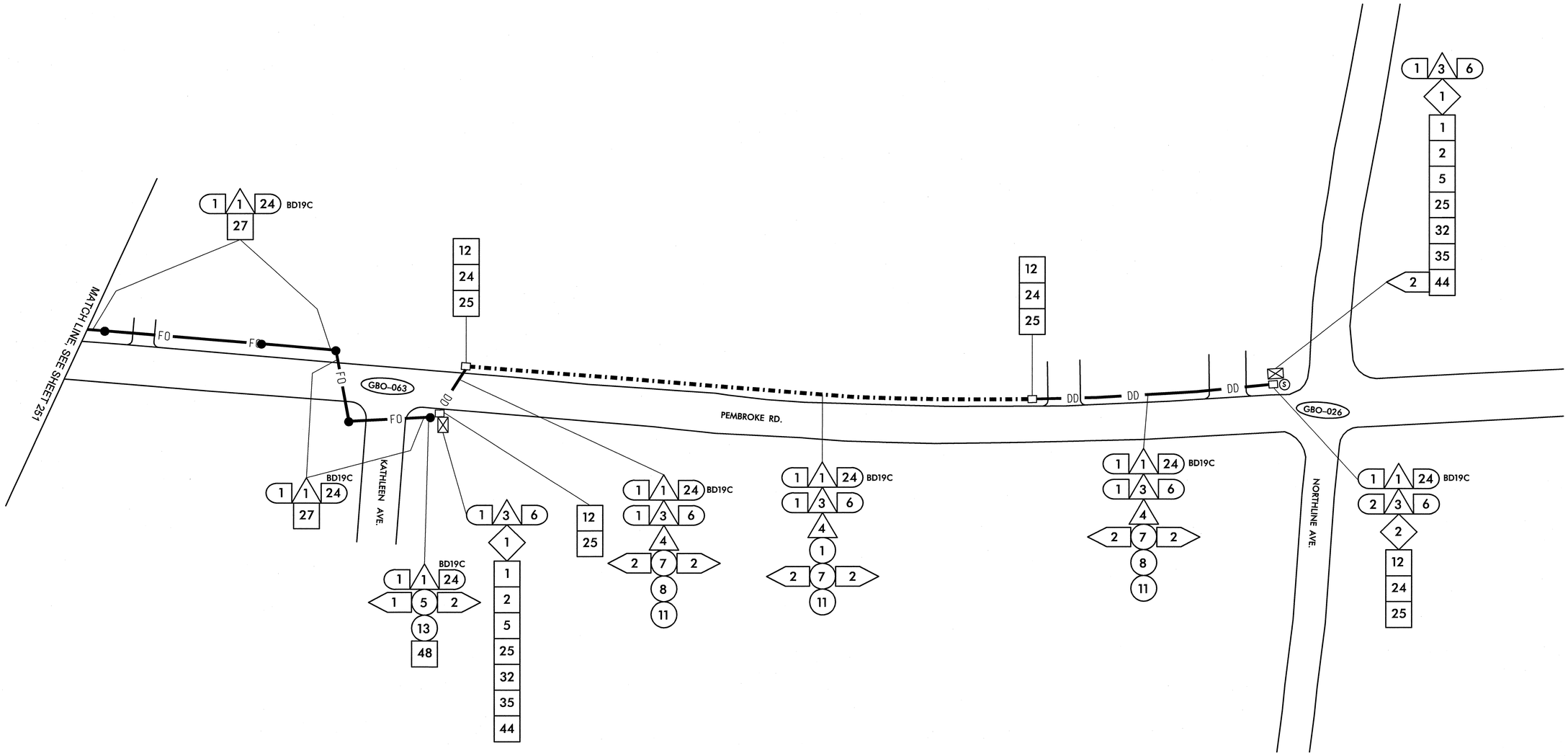
PROJECT REFERENCE NO.	SHEET NO.
U-4711	260



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8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0260.dgn

2/20/2008
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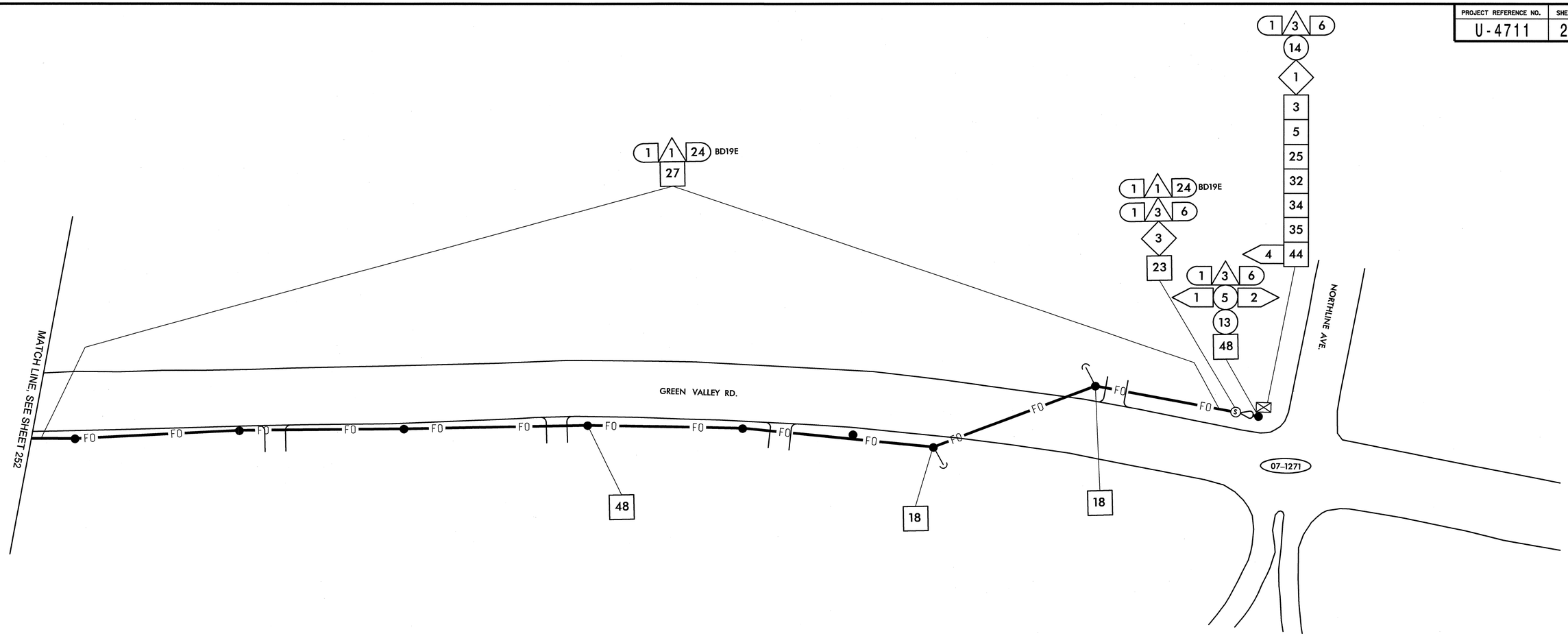
PROJECT REFERENCE NO.	SHEET NO.
U-4711	261



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
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7	INSTALL CCTV CAMERA ASSEMBLY
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9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNLO

SIGNATURE 2/20/08 DATE

CADD Filenames ...\Sht0261.dgn

2/20/2008
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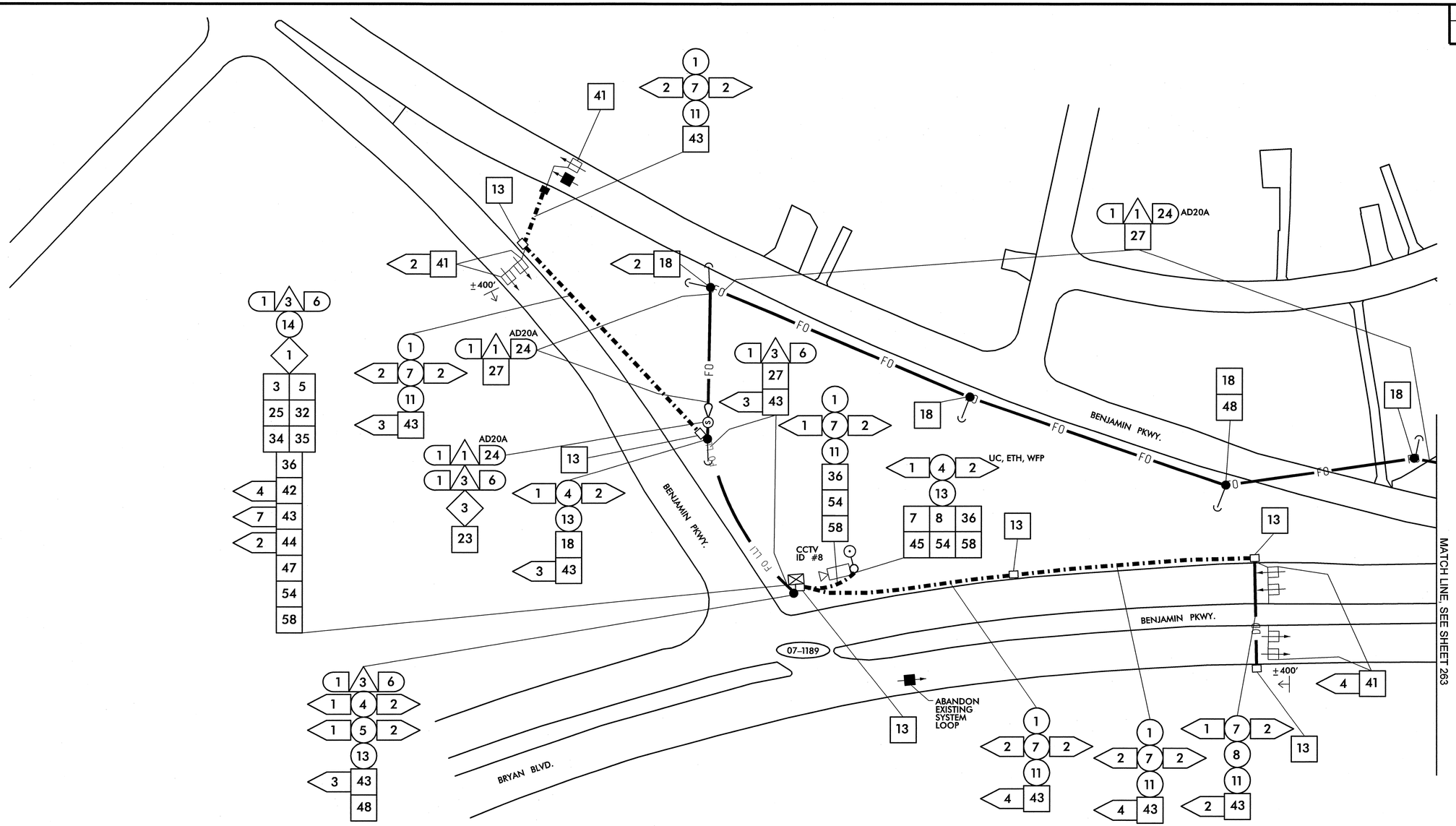
PROJECT REFERENCE NO.	SHEET NO.
U-4711	262



1	INSTALL SMFO CABLE
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6	REUSE GDOT SMFO CABLE
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2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
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6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
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28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
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41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
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45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
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52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Executive to North Carolina Department of Transportation
Transportation Mobility and Safety Division
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0262.dgn

2/20/2008
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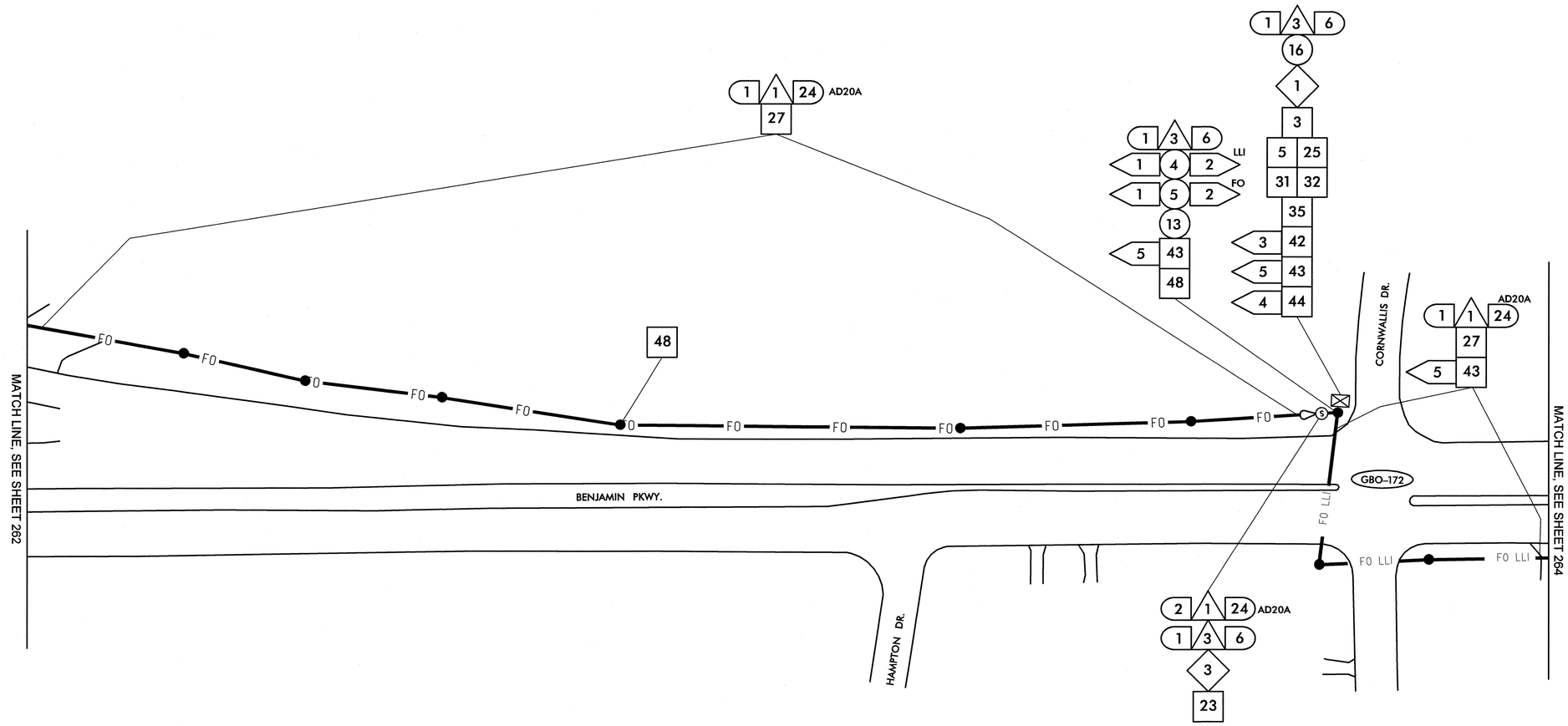
PROJECT REFERENCE NO.	SHEET NO.
U-4711	263



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH		
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE		
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER		
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR		
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT		
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE		
50	INSTALL ANTENNA CABLE				
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT				
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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Traffic Engineering and Safety System Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/22/08 DATE

CADD Filename: ...\Sht0263.dgn

2/20/2008
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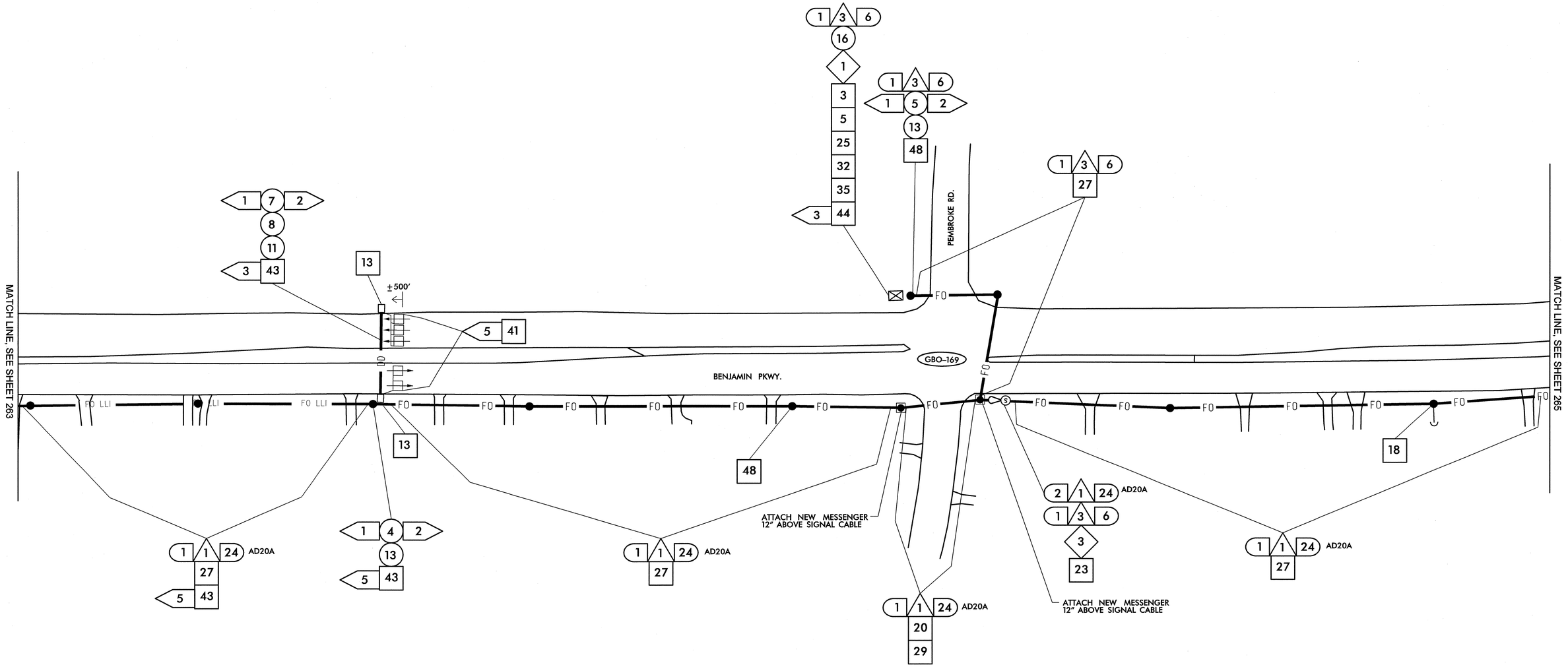
PROJECT REFERENCE NO.	SHEET NO.
U-4711	264



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
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10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0264.dgn

2/20/2008
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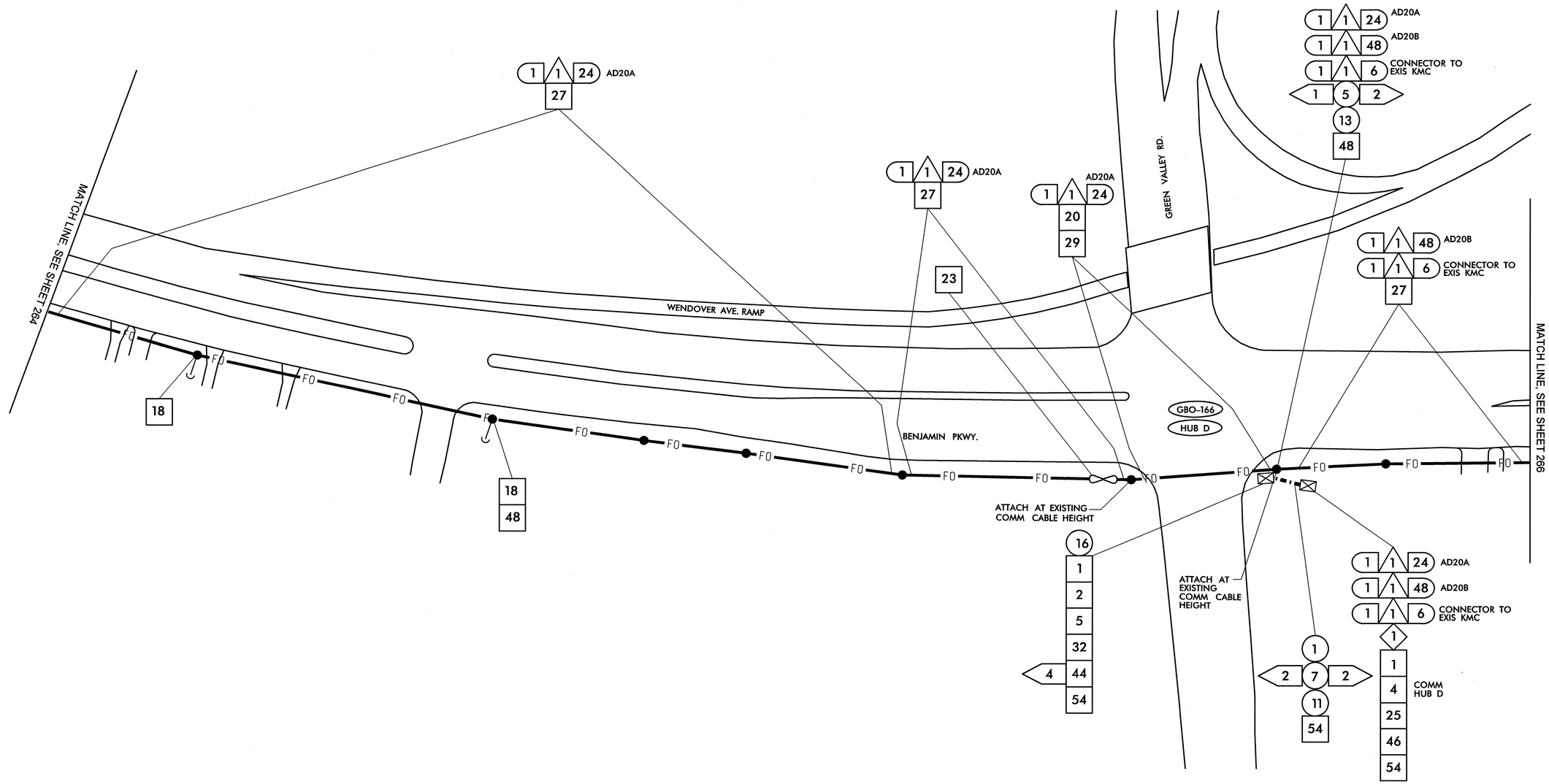
PROJECT REFERENCE NO.	SHEET NO.
U-4711	265



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/29/08 DATE

CADD Filename: ...\Sh+0265.dgn

2/29/2008
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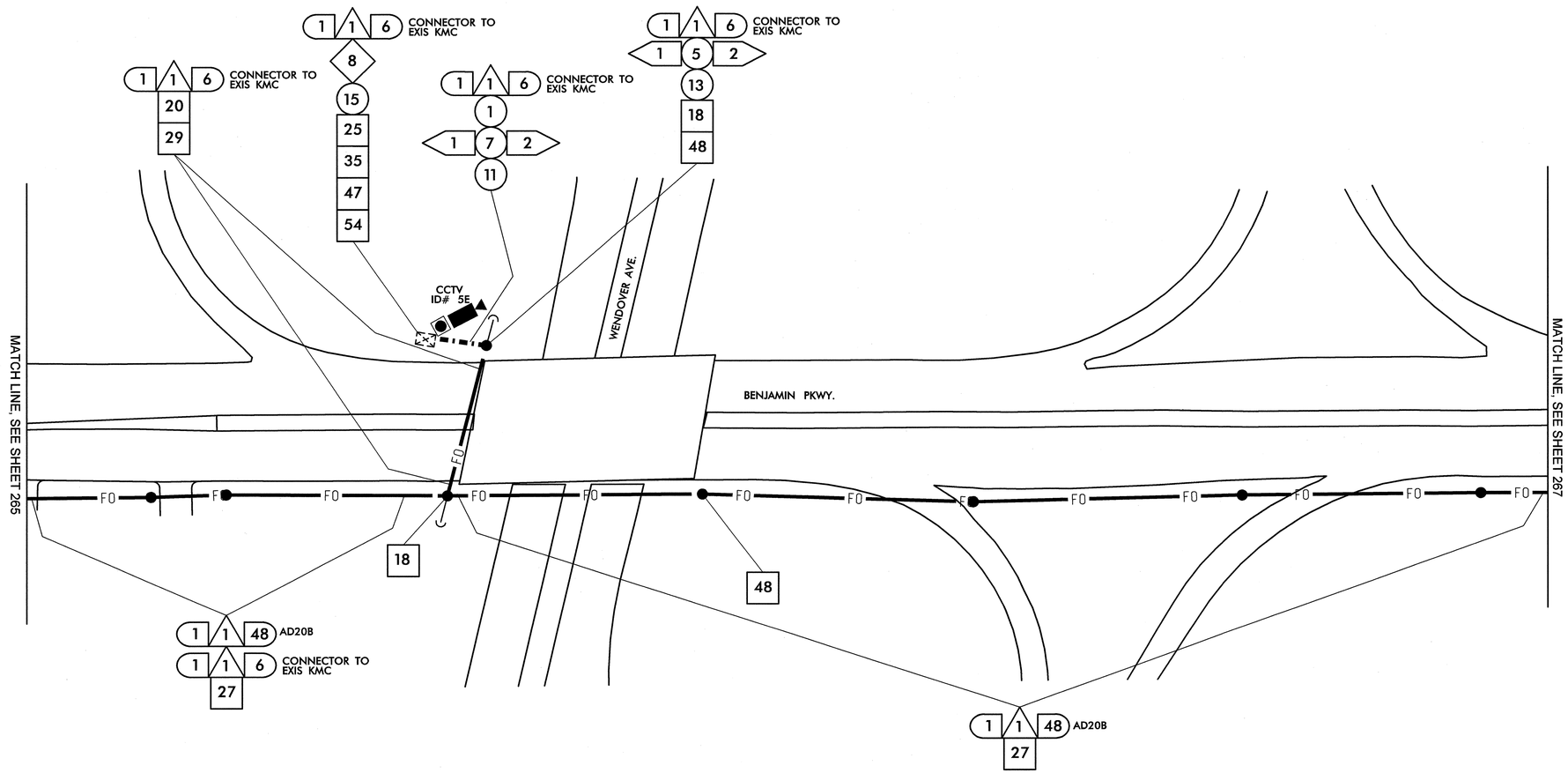
PROJECT REFERENCE NO.	SHEET NO.
U-4711	266



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2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
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2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
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35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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P.O. Box 33068
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(919) 677-2000

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Safety, Mobility and Safety Improvement Division
Intelligent Transportation Systems
750 Greenfield Pkwy, Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filenames ...\Sht0266.dgn

2/20/2008
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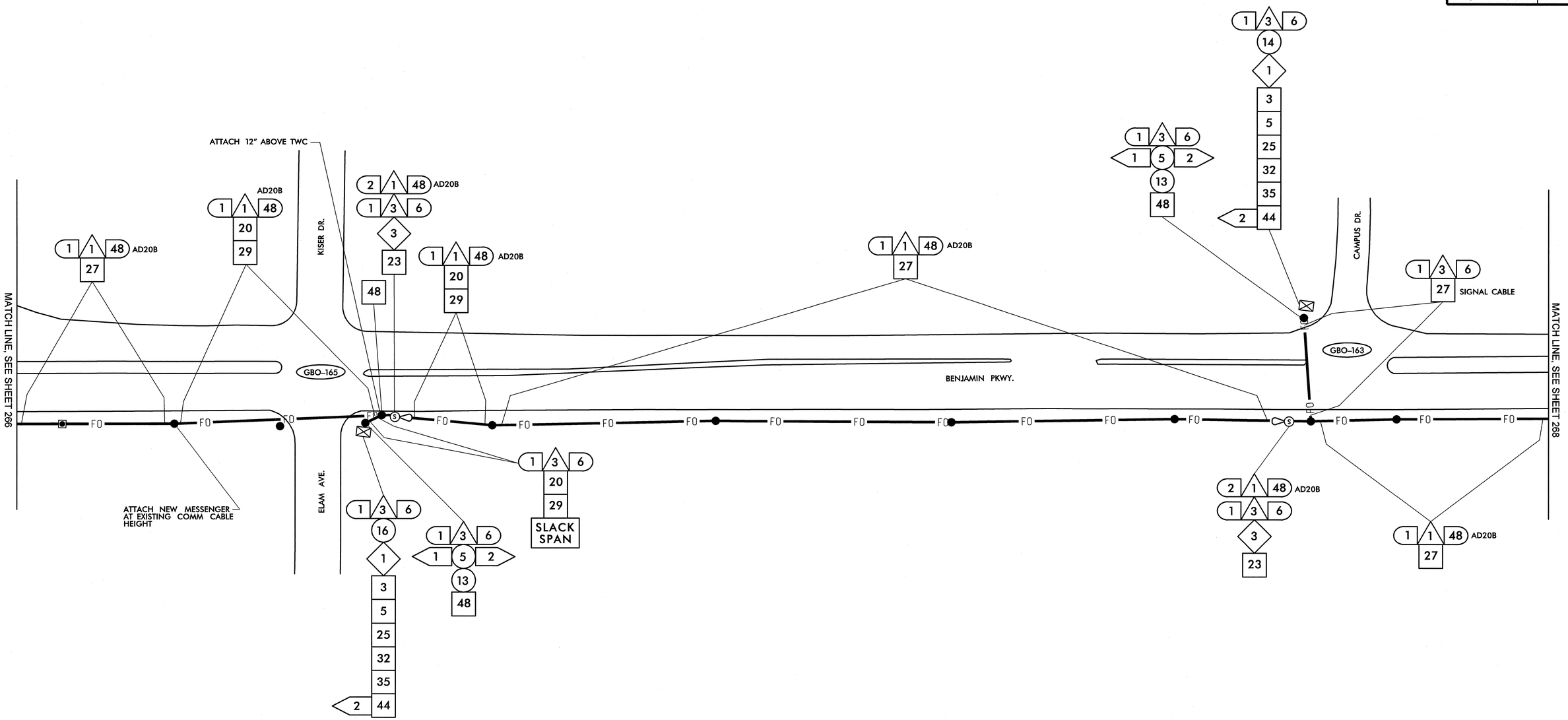
PROJECT REFERENCE NO.	SHEET NO.
U-4711	267



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NOTE:
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0267.dgn

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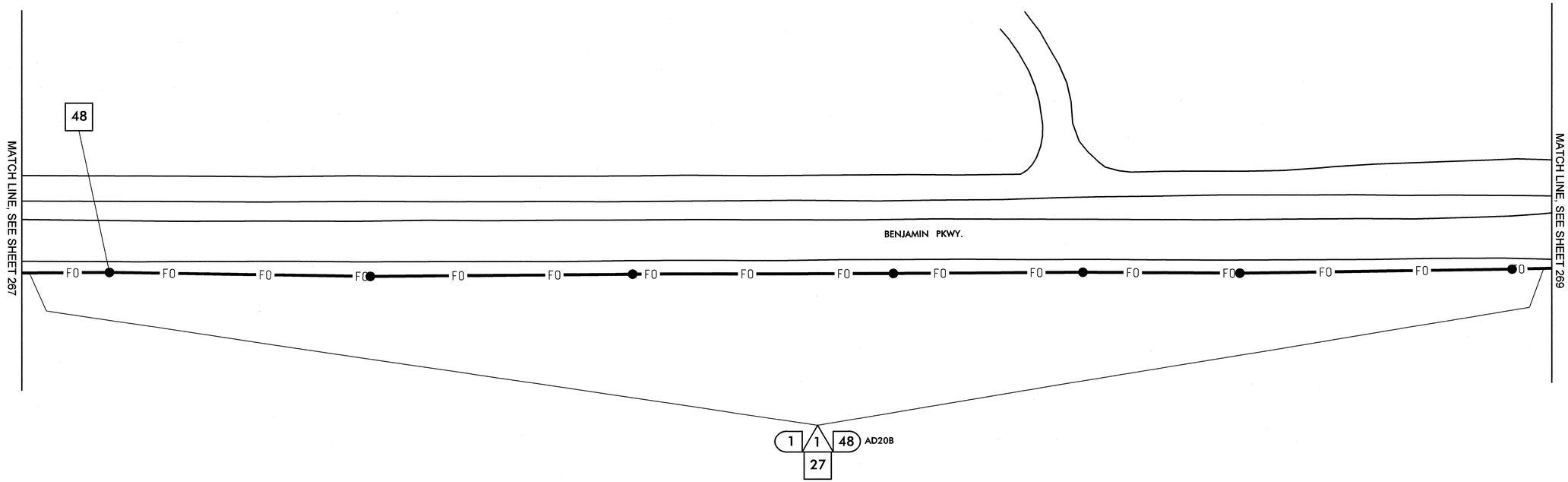
PROJECT REFERENCE NO.	SHEET NO.
U-4711	268



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PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0268.dgn

2/20/2008
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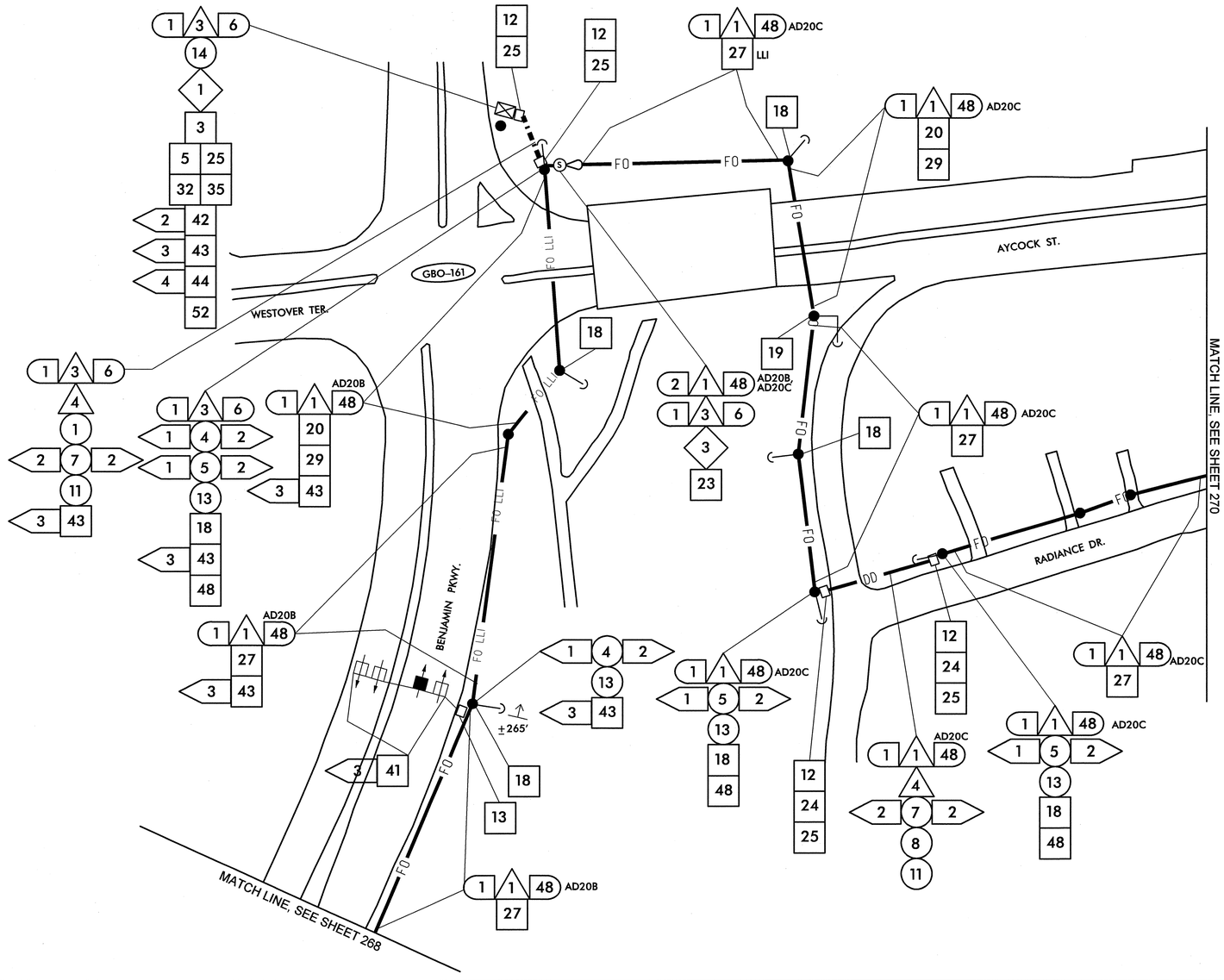
PROJECT REFERENCE NO.	SHEET NO.
U-4711	269



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0269.dgn

2/20/2008
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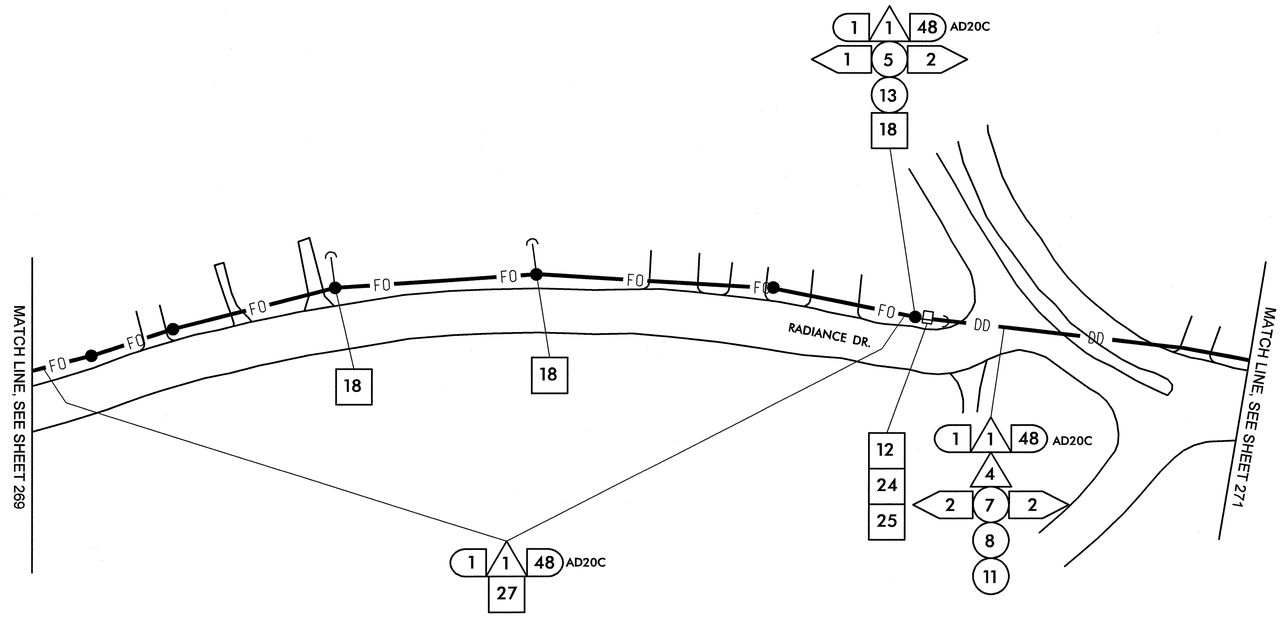
PROJECT REFERENCE NO.	SHEET NO.
U-4711	270



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Public Leadership and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0270.dgn

2/20/2008
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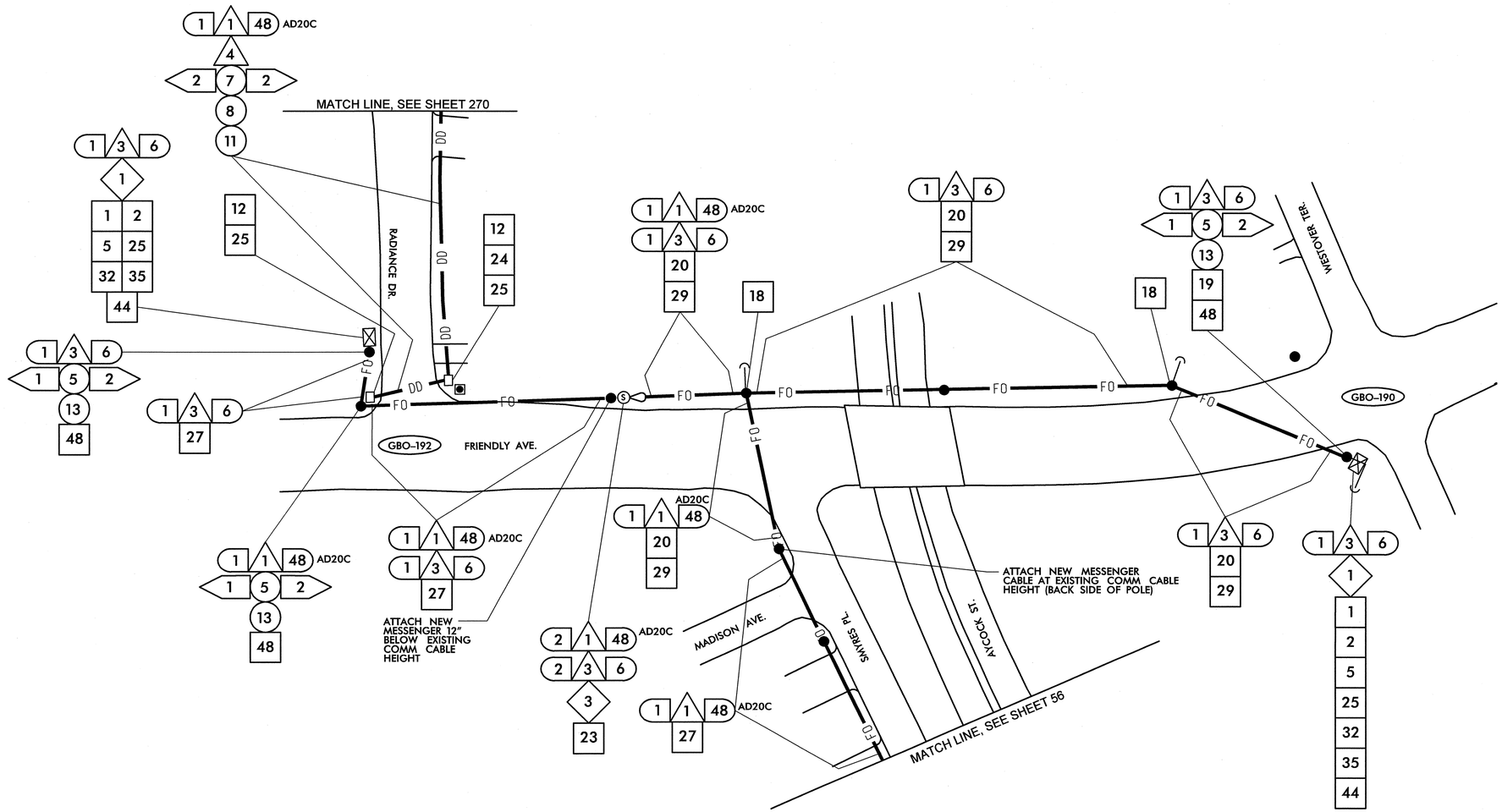
PROJECT REFERENCE NO.	SHEET NO.
U-4711	271



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET
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3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE
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7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0271.dgn

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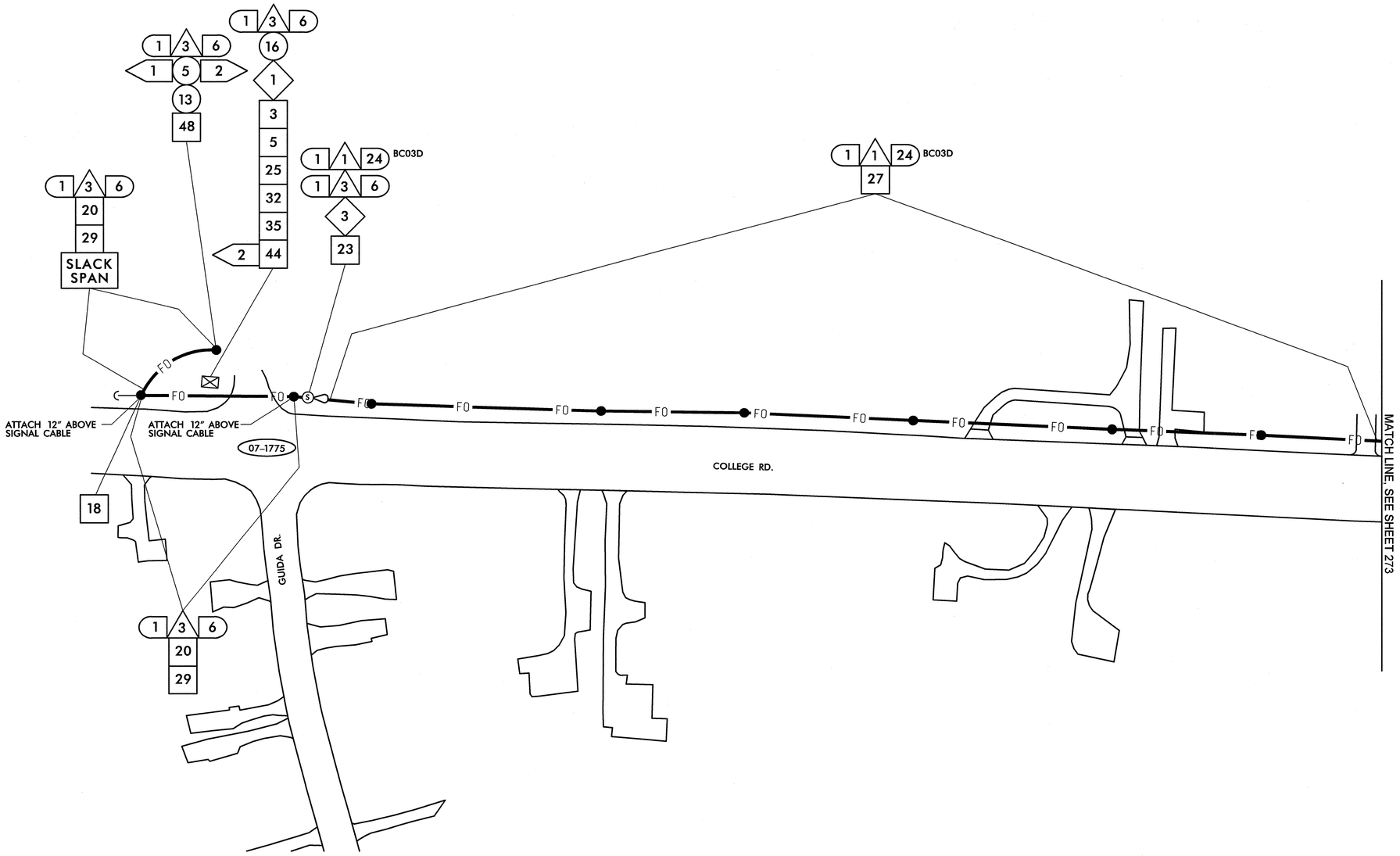
PROJECT REFERENCE NO.	SHEET NO.
U-4711	272



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GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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Traffic Engineering and Safety System Branch
Traffic Management Unit
DIVISION OF HIGHWAYS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Building
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
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SEAL
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CADD Filename: ...\Sht0272.dgn

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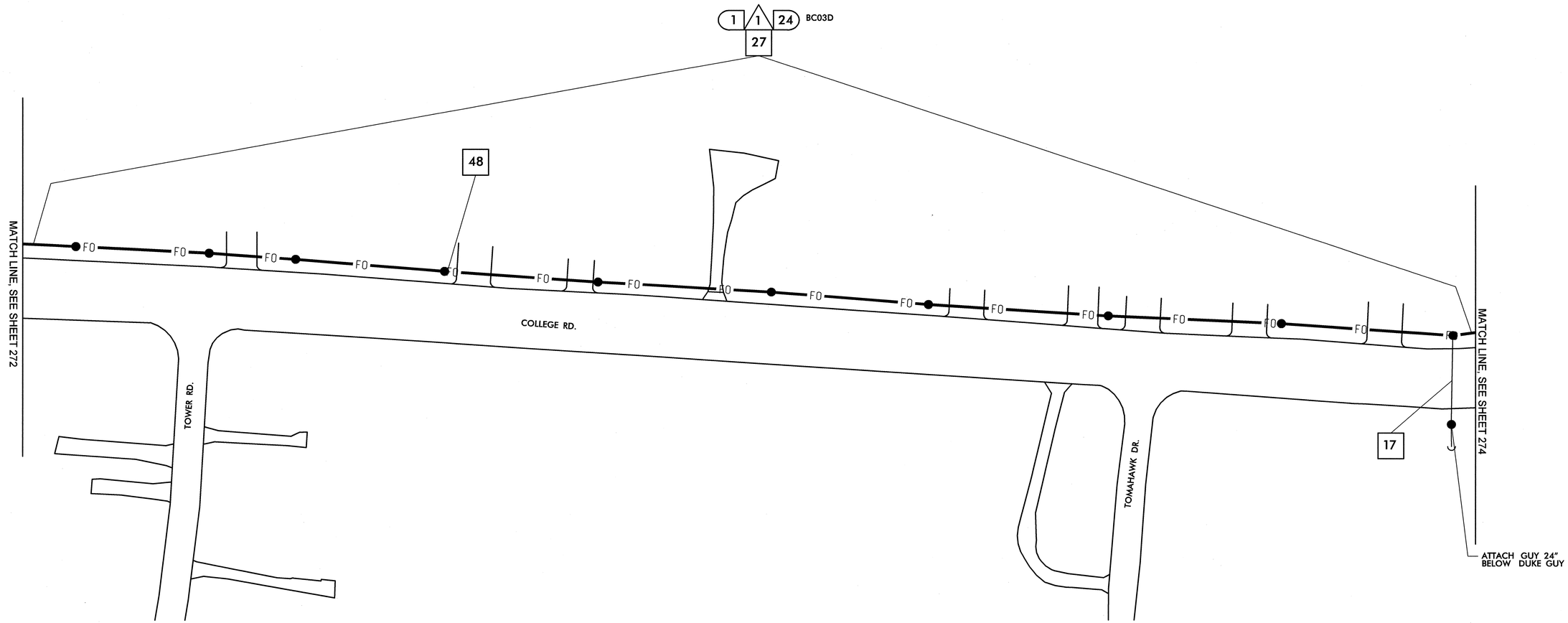
PROJECT REFERENCE NO.	SHEET NO.
U-4711	273



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3. INSTALL FIBER OPTIC DROP CABLE
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1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0273.dgn

2/20/2008
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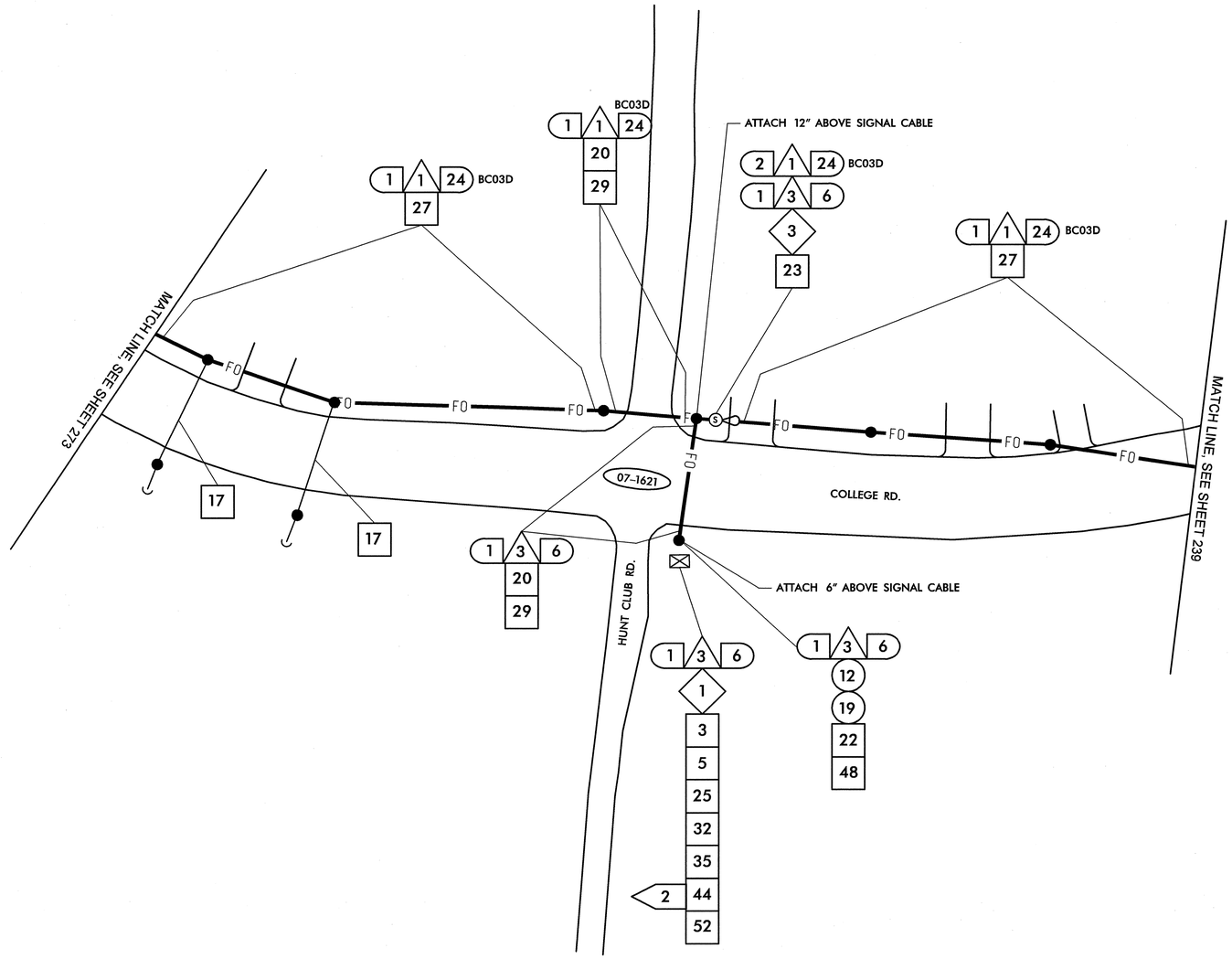
PROJECT REFERENCE NO.	SHEET NO.
U-4711	274



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
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11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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20	INSTALL MESSENGER CABLE
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22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
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32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
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43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0274.dgn

2/20/2008
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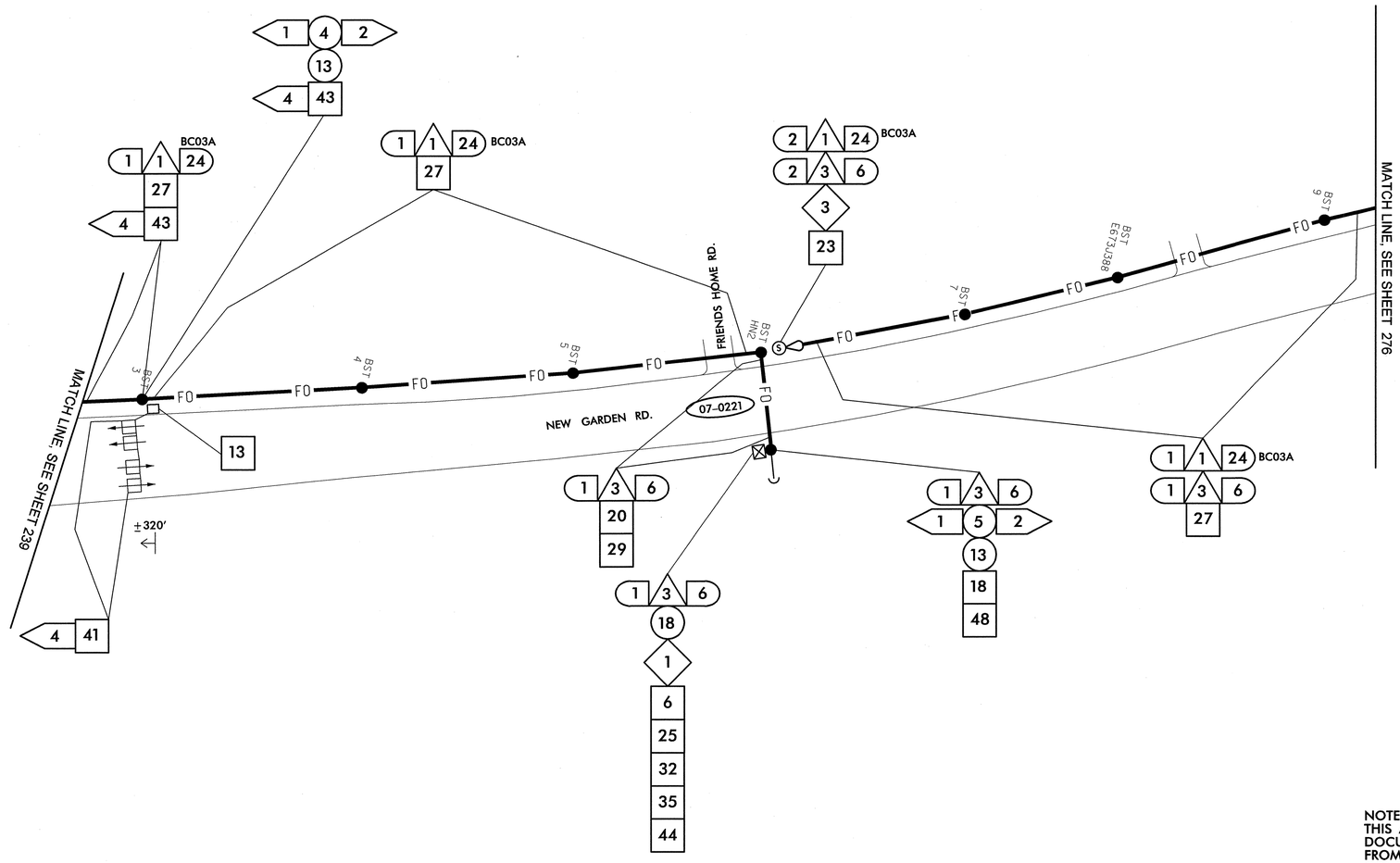
PROJECT REFERENCE NO.	SHEET NO.
U-4711	275



NOTE:
THIS AREA HAS BEEN DETERMINED TO CONTAIN PROPERTIES WITH DOCUMENTED HISTORIC SIGNIFICANCE. IF IT IS NECESSARY TO DEVIATE FROM THESE PLANS IN THIS AREA, PLEASE ALERT THE ENGINEER TO CONTACT PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH–HISTORIC ARCHITECTURE GROUP OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FOR AN EFFECTS DETERMINATION BEFORE PROCEEDING.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
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13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
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39. INSTALL OMNI-DIRECTIONAL ANTENNA
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44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
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47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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P.O. Box 33068
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Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE — DATE 2/20/08
CADD Filename ...\Sht0275.dgn

2/20/2008
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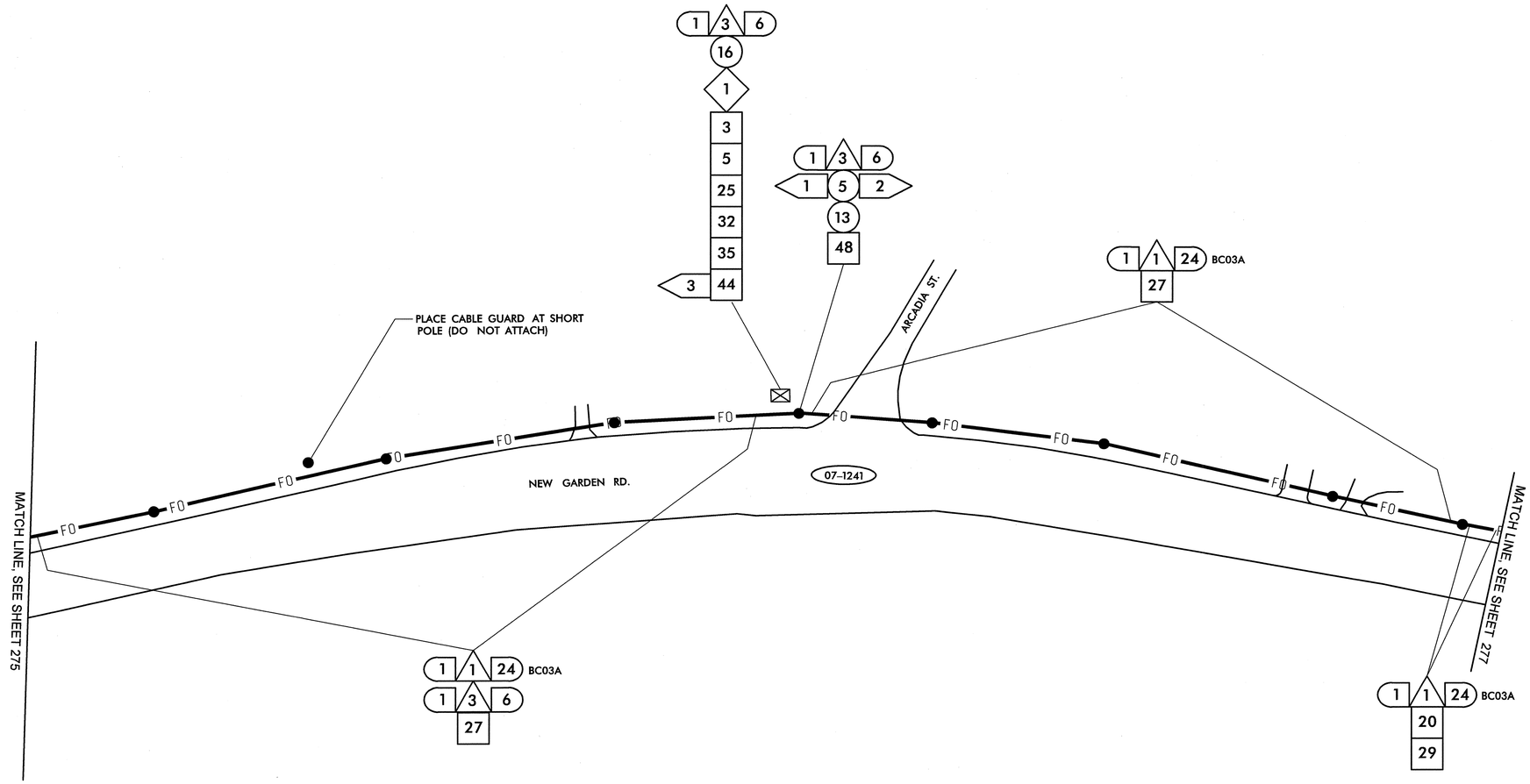
PROJECT REFERENCE NO.	SHEET NO.
U-4711	276



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- 1 INSTALL SMFO CABLE
- 2 INSTALL PLENUM RATED FIBER OPTIC CABLE
- 3 INSTALL FIBER OPTIC DROP CABLE
- 4 INSTALL TRACER WIRE
- 5 REUSE NCDOT SMFO CABLE
- 6 REUSE GDOT SMFO CABLE
- (1) TRENCH
- (2) INSTALL PVC CONDUIT
- (3) INSTALL RIGID, GALVANIZED STEEL CONDUIT
- (4) INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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- (6) INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
- (7) INSTALL POLYETHYLENE CONDUIT
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- (9) BORE AND JACK CONDUIT
- (10) INSTALL CABLE(S) IN EXISTING CONDUIT
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- 1 INSTALL CABINET FOUNDATION
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- 4 INSTALL NEW 333 COMMUNICATION CABINET
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- 48 BOND MESSENGER CABLE TO POLE GROUND
- 49 INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
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CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

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2/20/2008
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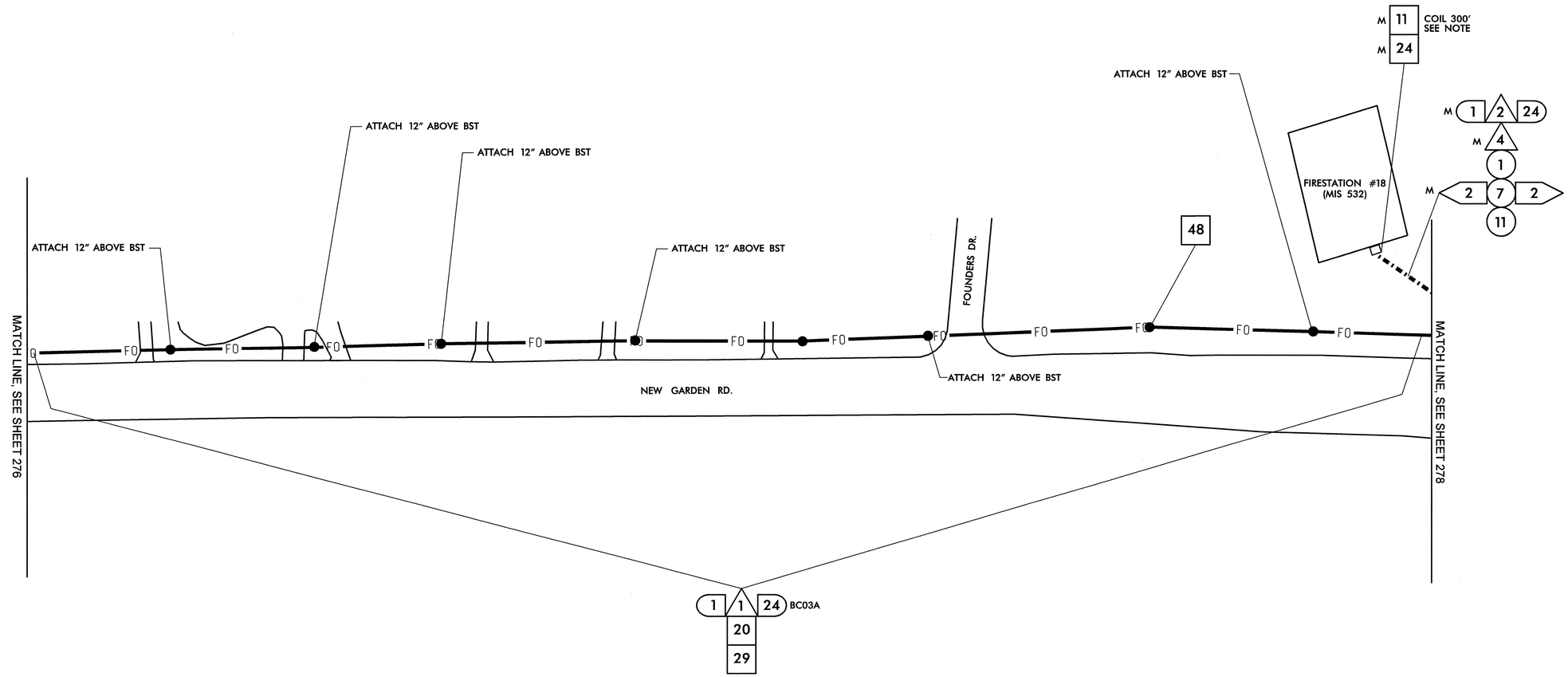
PROJECT REFERENCE NO.	SHEET NO.
U-4711	277



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

SCALE 0 50

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

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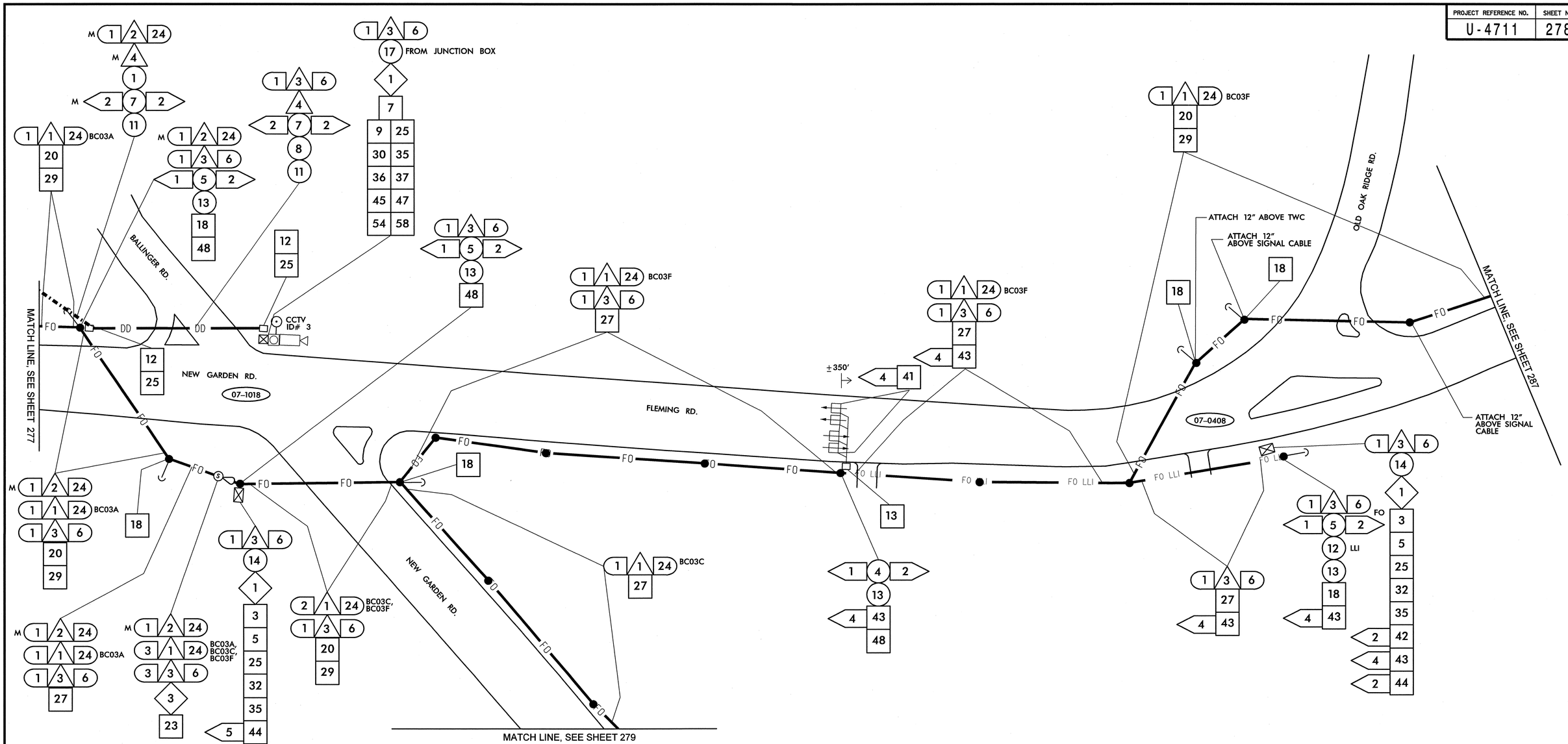
U-4711	278



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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

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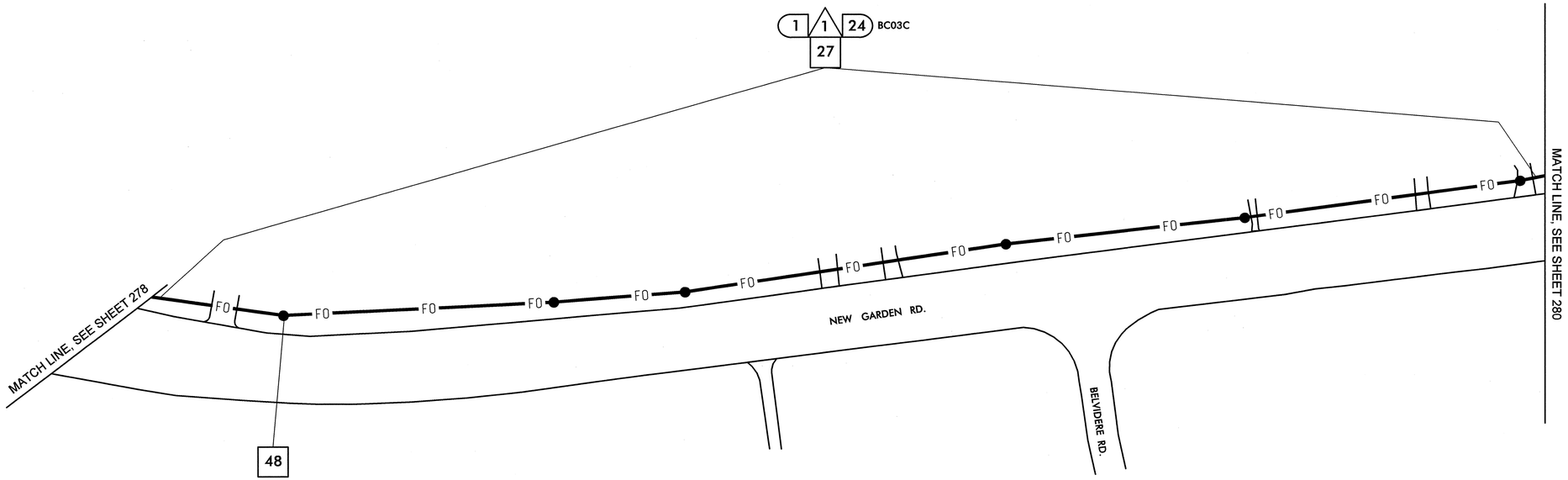
PROJECT REFERENCE NO.	SHEET NO.
U-4711	279



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE

26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
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30	INSTALL NEW ELECTRICAL SERVICE	48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
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43	INSTALL SYSTEM LOOP LEAD-IN CABLE				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

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PROJECT REFERENCE NO.	SHEET NO.
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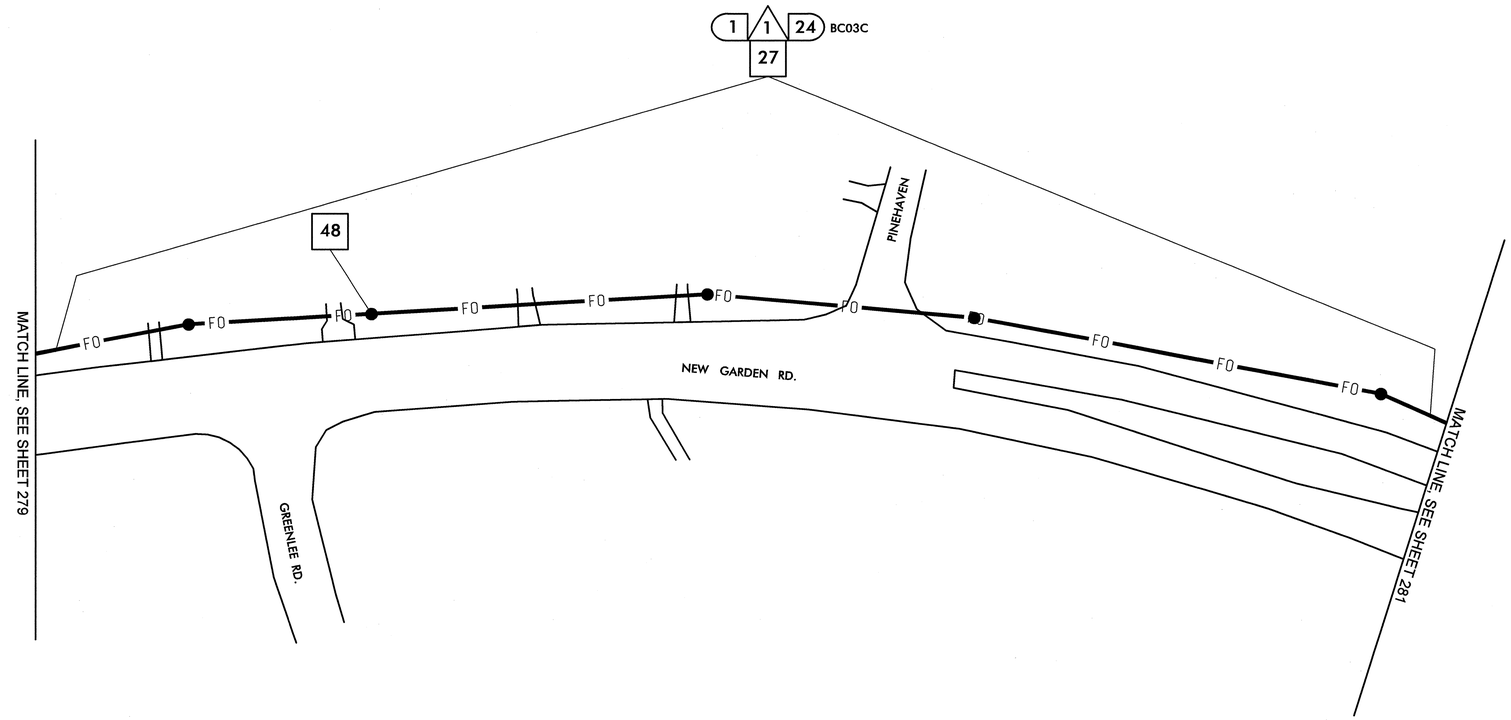

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Raleigh N.C. 27636-3068
(919) 677-2000

Public Engineering and Safety Systems Branch
Intelligent Transportation Systems
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

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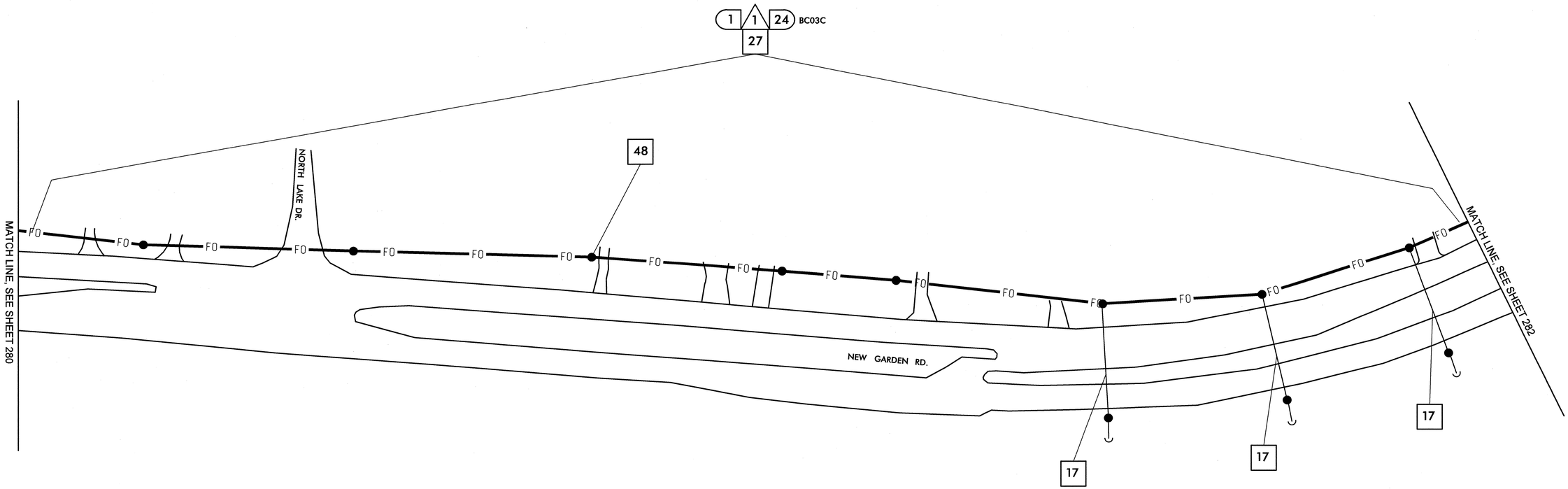

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5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht028l.dgn

2/20/2008
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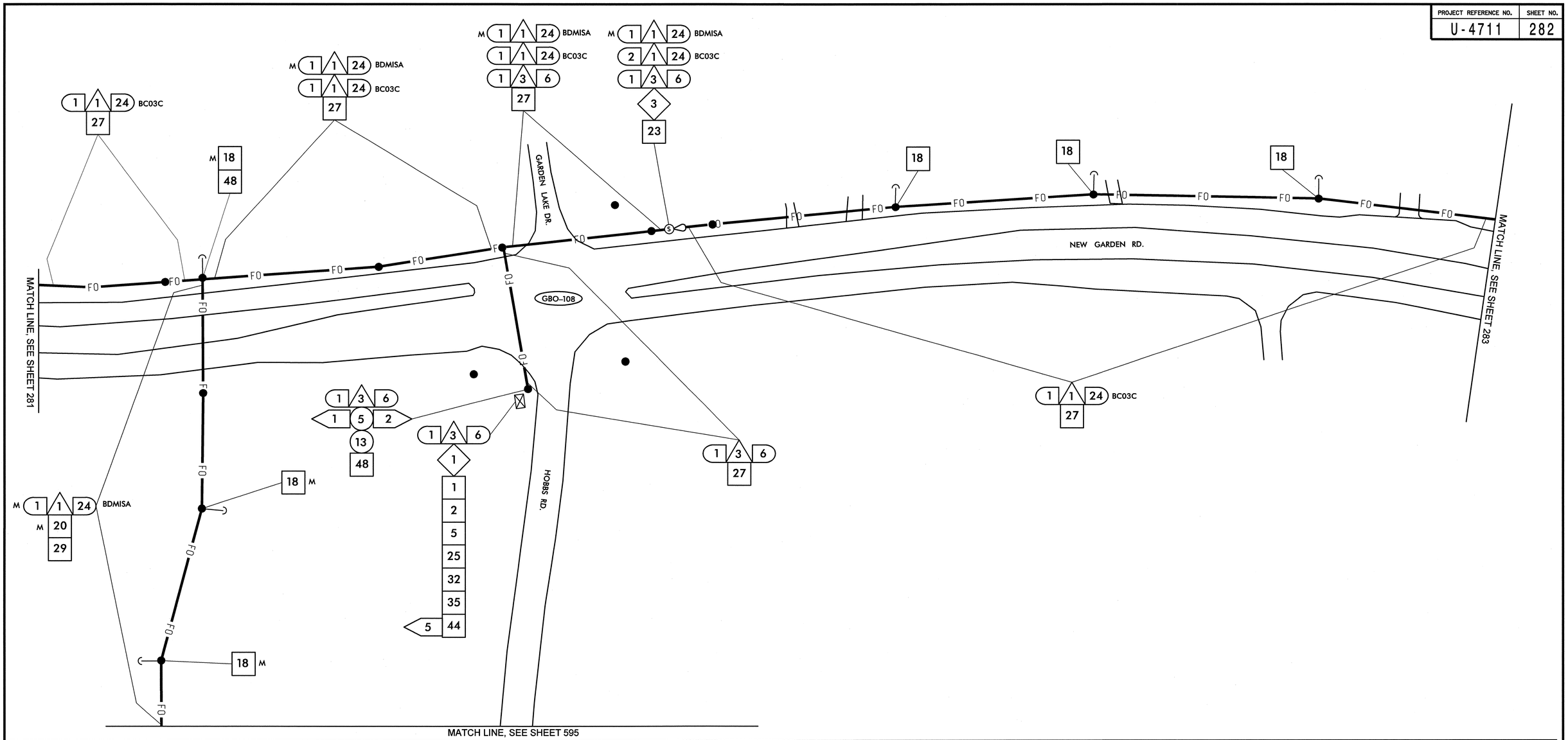
PROJECT REFERENCE NO.	SHEET NO.
U-4711	282



1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/22/08 DATE

CADD Filename ...\Sht0282m.dgn

2/20/2008
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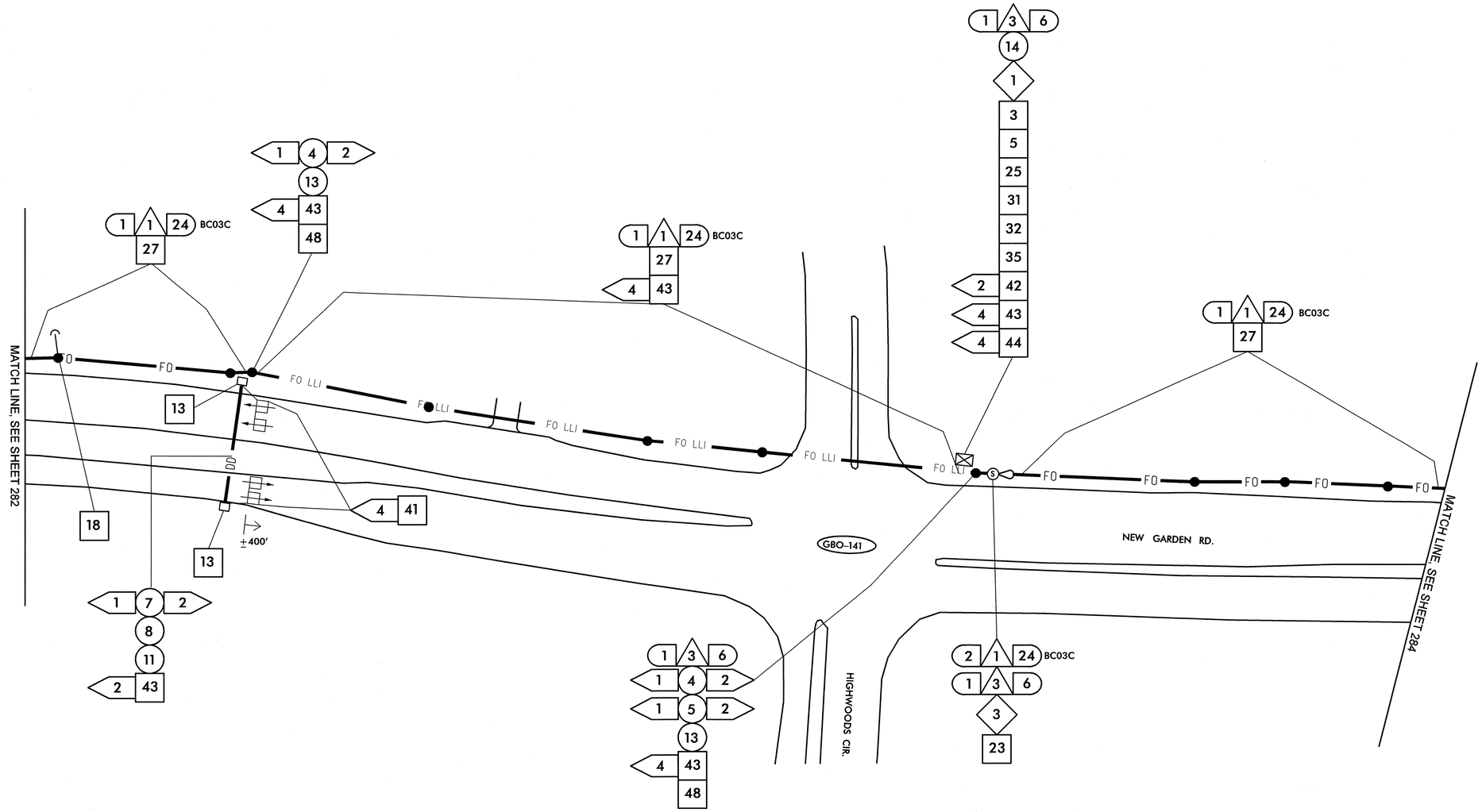
PROJECT REFERENCE NO.	SHEET NO.
U-4711	283



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
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13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
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19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
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6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
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17	INSTALL AERIAL GUY ASSEMBLY
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20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
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32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
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50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE — DATE 2/20/08
CADD Filename: ...\Sht0283.dgn

2/20/2008
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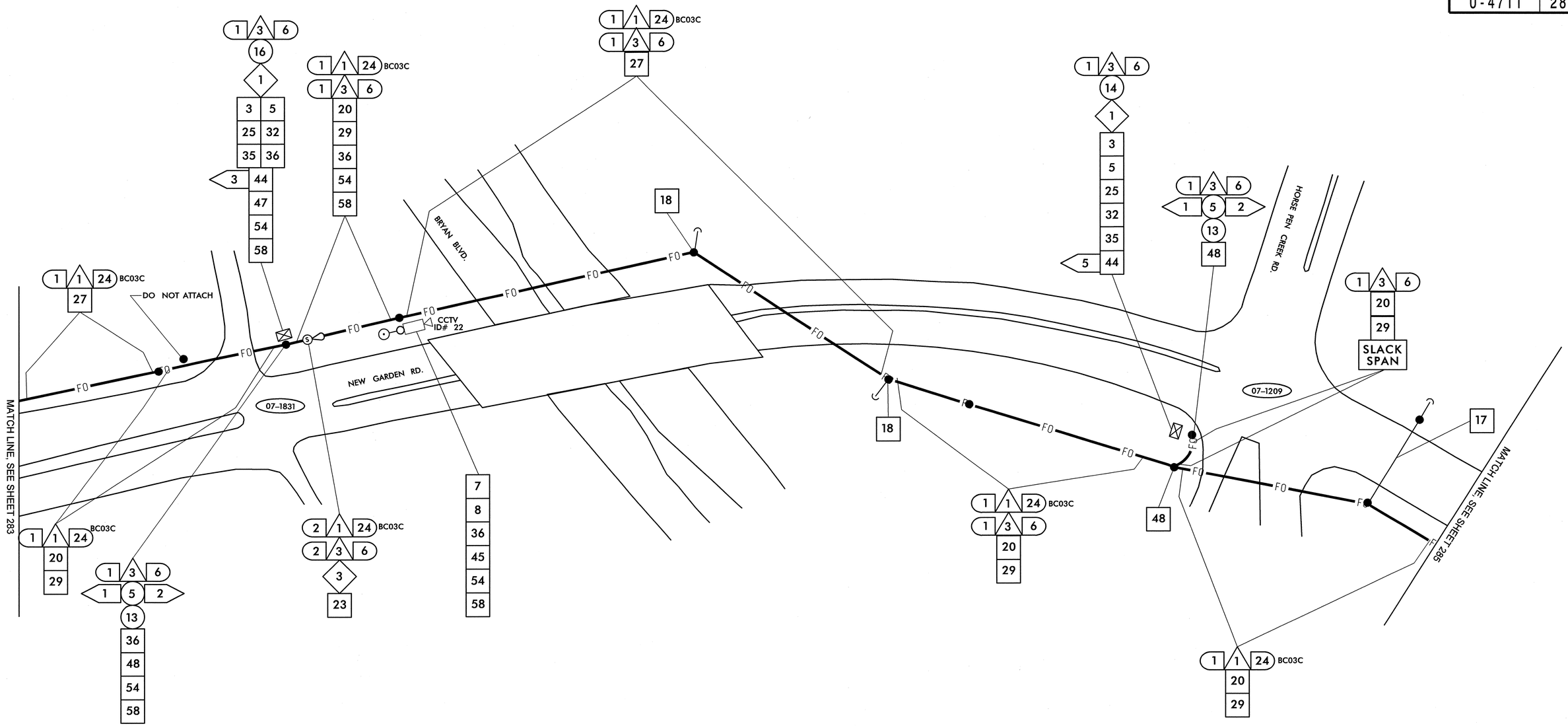
PROJECT REFERENCE NO.	SHEET NO.
U-4711	284



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NOTE:
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/22/08

CADD Filename: ...\Sht0284.dgn

2/20/2008
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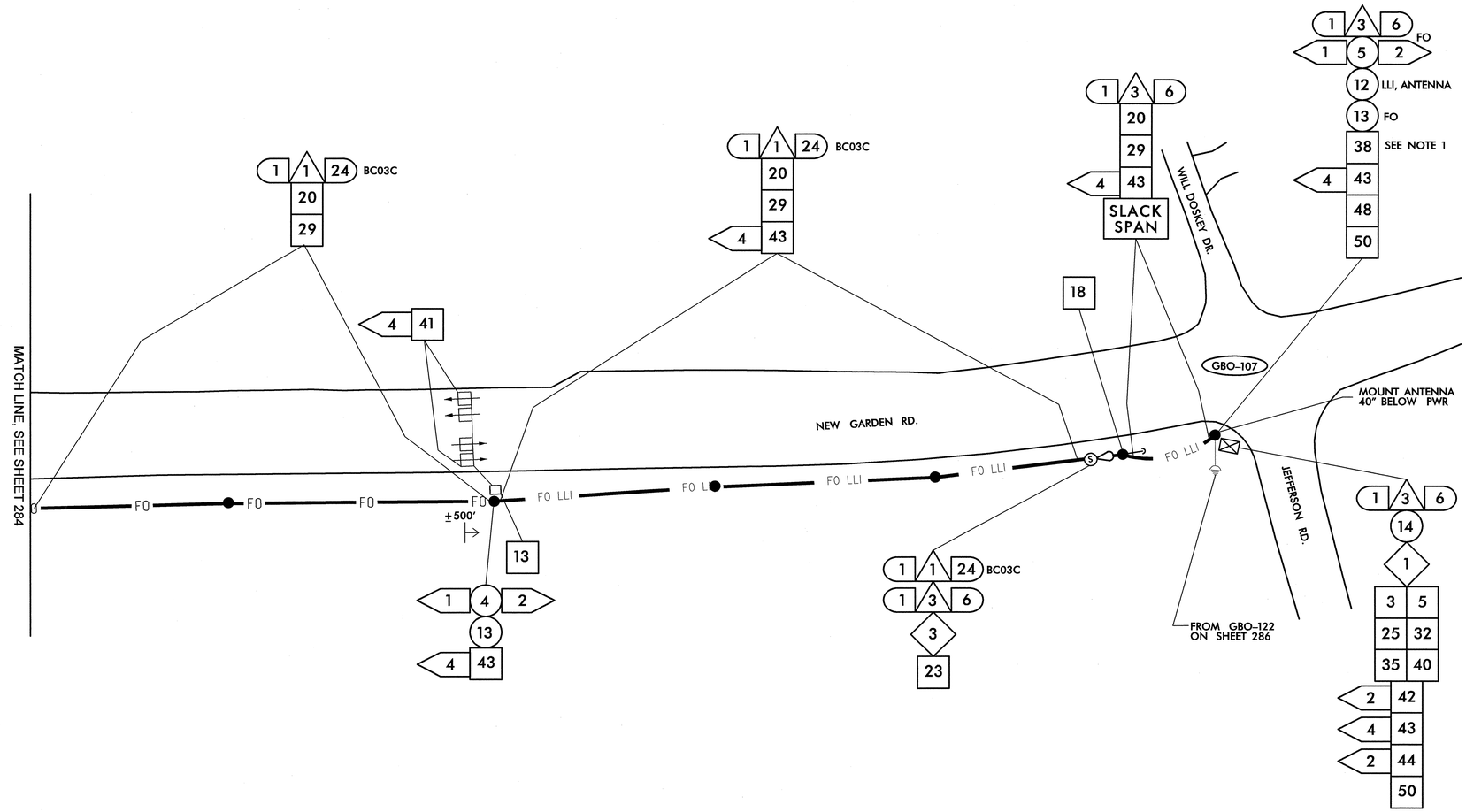

NOTES (THIS SHEET ONLY)

1. ANTENNA ORIENTATION IS FOR DISPLAY PURPOSES ONLY. FINAL ORIENTATION TO BE DETERMINED IN THE FIELD.

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
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13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0285.dgn

2/20/2008
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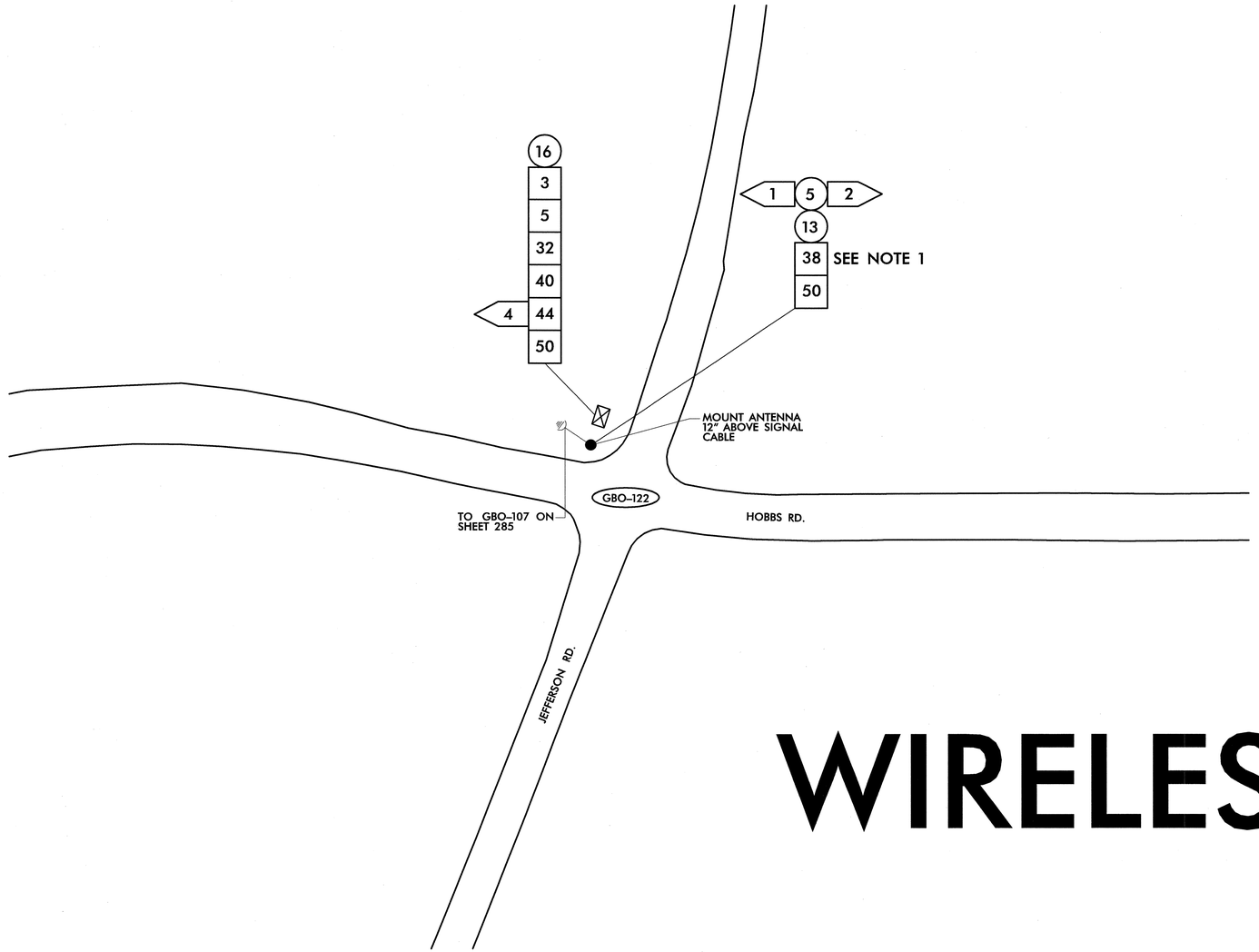
PROJECT REFERENCE NO.	SHEET NO.
U-4711	286



WIRELESS

NOTES (THIS SHEET ONLY)

1. ANTENNA ORIENTATION IS FOR DISPLAY PURPOSES ONLY. FINAL ORIENTATION TO BE DETERMINED IN THE FIELD.

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
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39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
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57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO
COMPUTERIZED
SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0286.dgn

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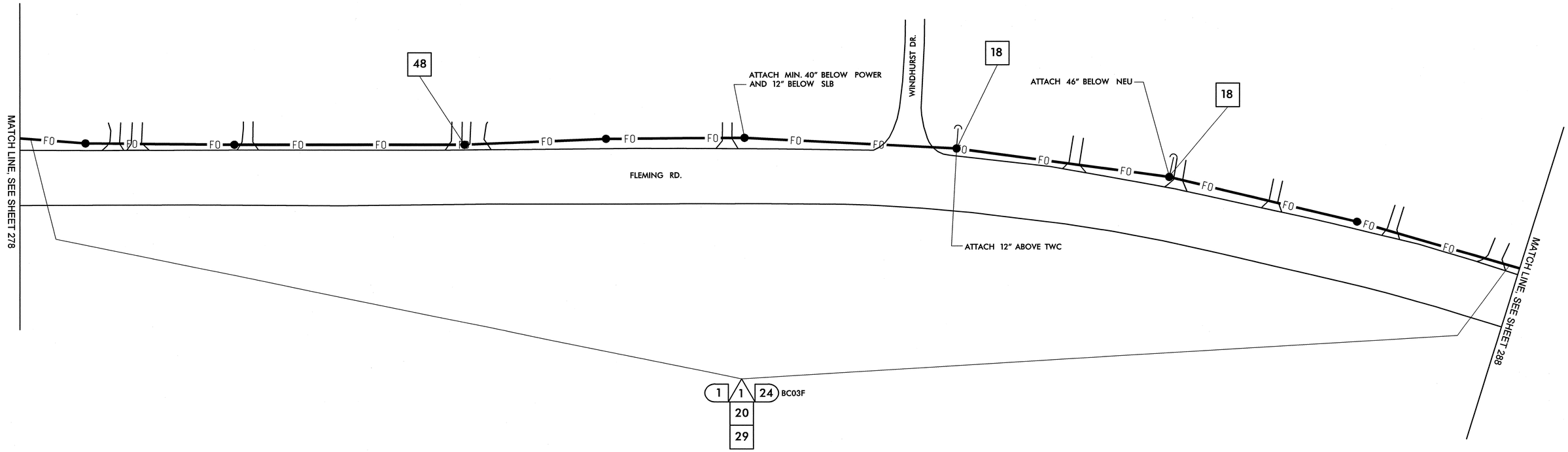
PROJECT REFERENCE NO.	SHEET NO.
U-4711	287



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44	INSTALL LOCAL LOOP AMPLIFIER
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE	47	INSTALL CODEC
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE	48	BOND MESSENGER CABLE TO POLE GROUND
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE	49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER	50	INSTALL ANTENNA CABLE
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET	51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX	52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH		
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE		
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET		
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA		
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA		
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER		
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP		
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER		
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE		
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER				
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE				

53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0287.dgn

2/20/2008
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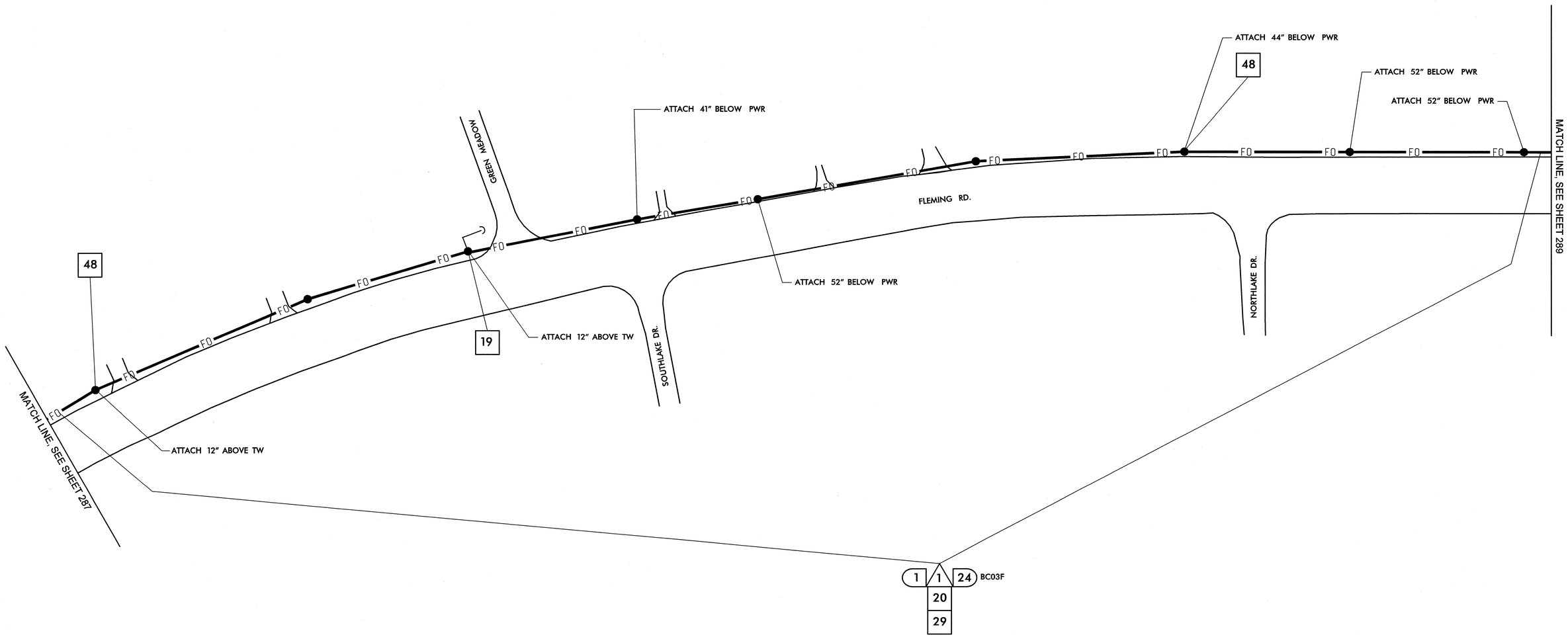
PROJECT REFERENCE NO.	SHEET NO.
U-4711	288



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Public Rudeness and Safety Systems Board
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0288.dgn

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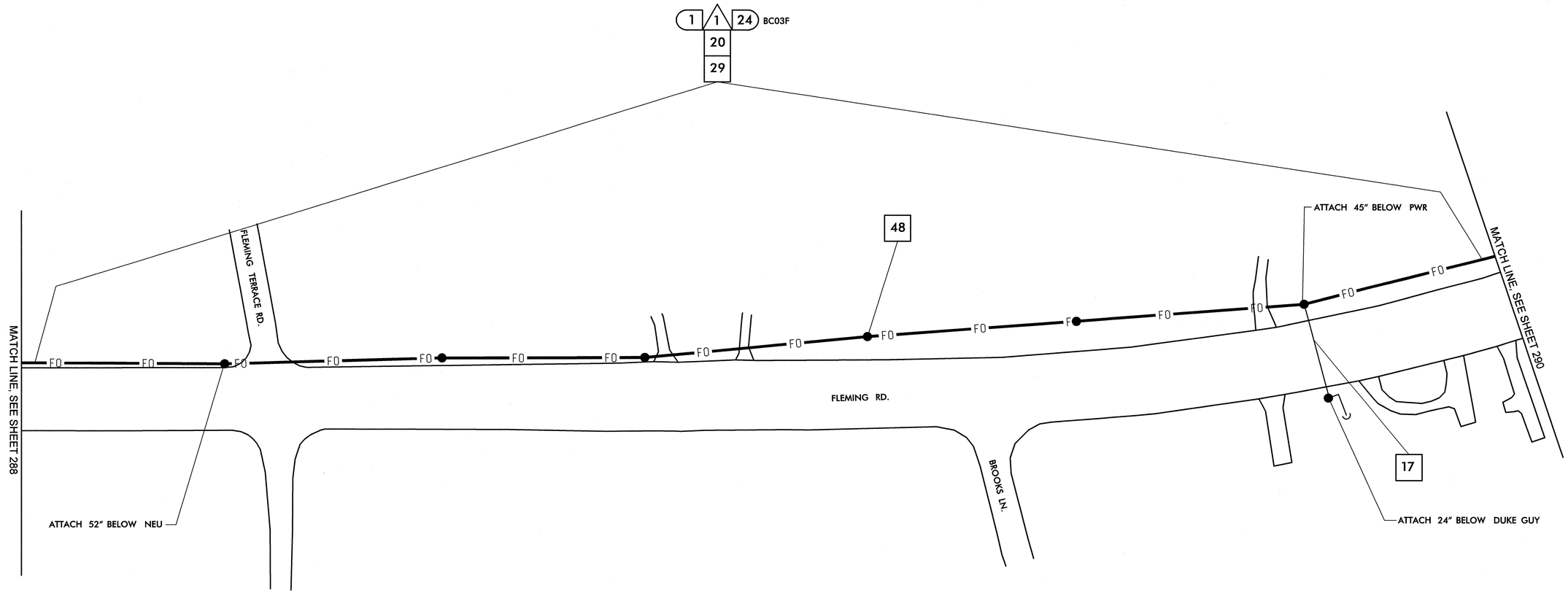
PROJECT REFERENCE NO.	SHEET NO.
U-4711	289



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1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Integrated Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE 2/29/08 DATE
CADD Filename: ...\Sht0289.dgn

2/20/2008
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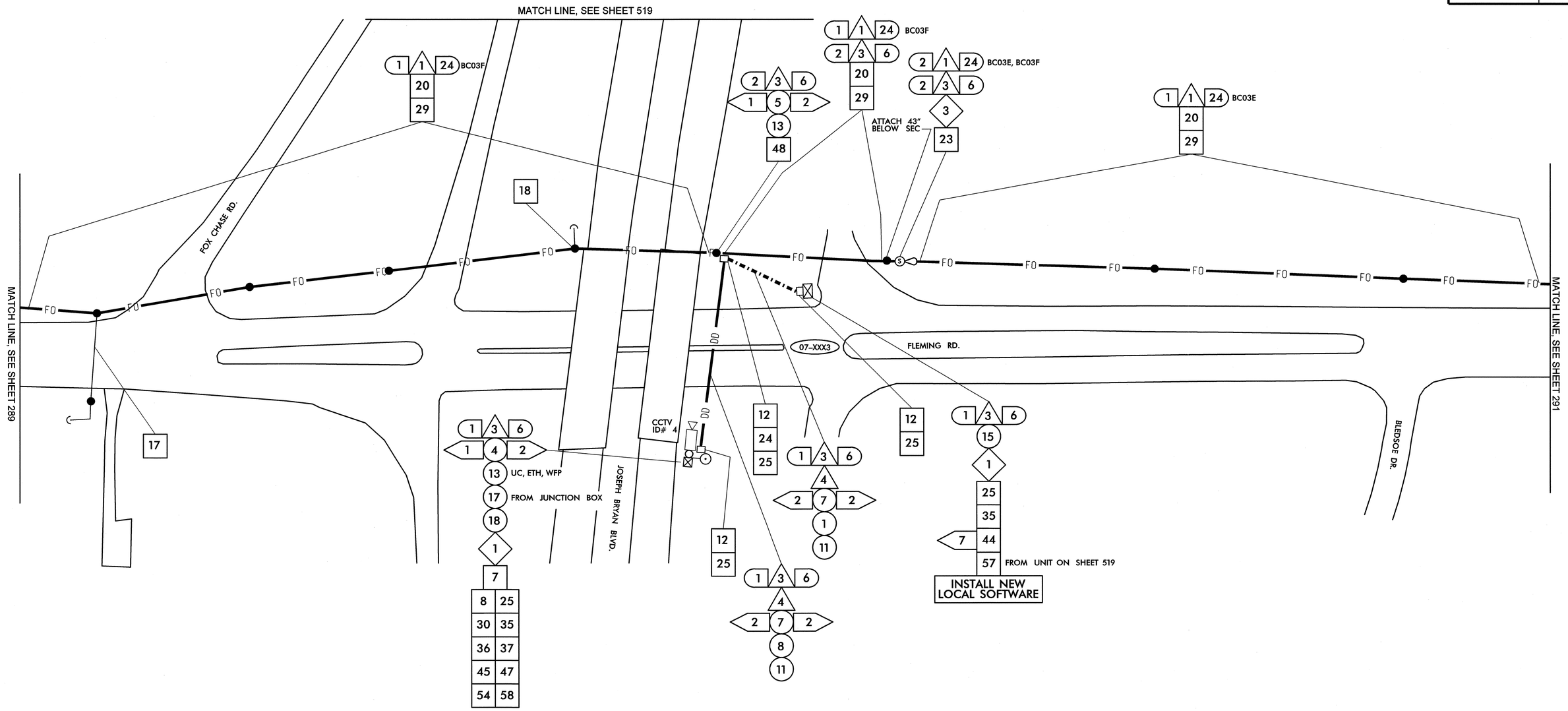
PROJECT REFERENCE NO.	SHEET NO.
U-4711	290



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
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6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
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2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
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23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
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PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transport Transportation
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE 2/20/08 DATE
CADD Filename: ...\Sht0290.dgn

2/20/2008
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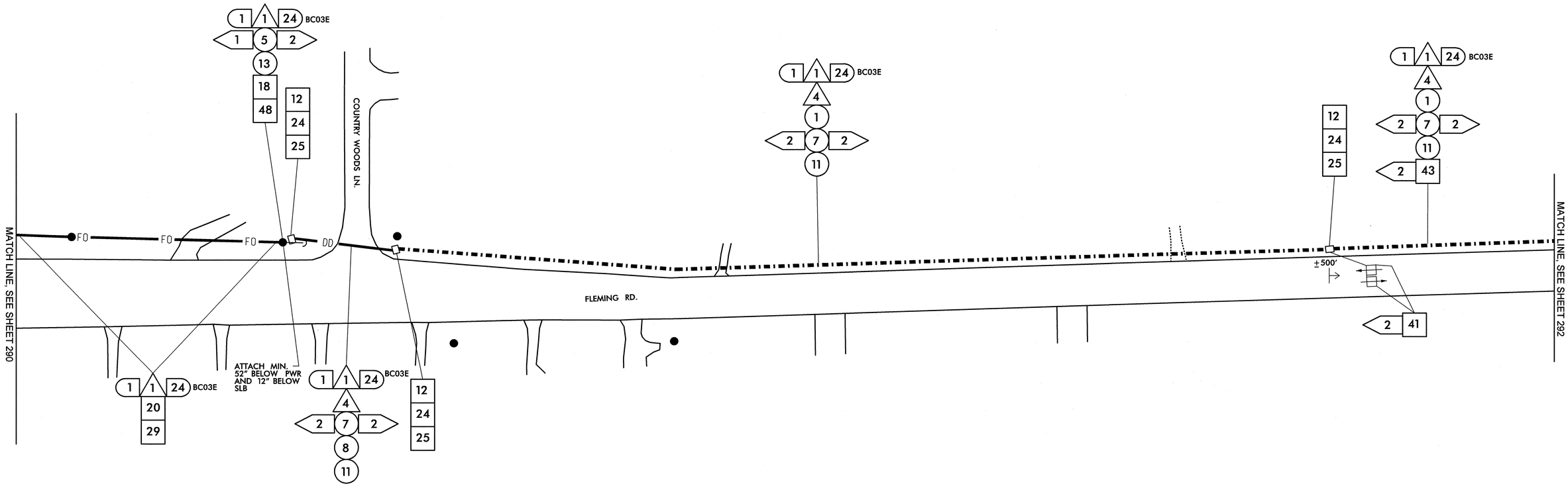
PROJECT REFERENCE NO.	SHEET NO.
U-4711	291



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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
DEPARTMENT OF TRANSPORTATION
STATE OF NORTH CAROLINA
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0291.dgn

2/20/2008
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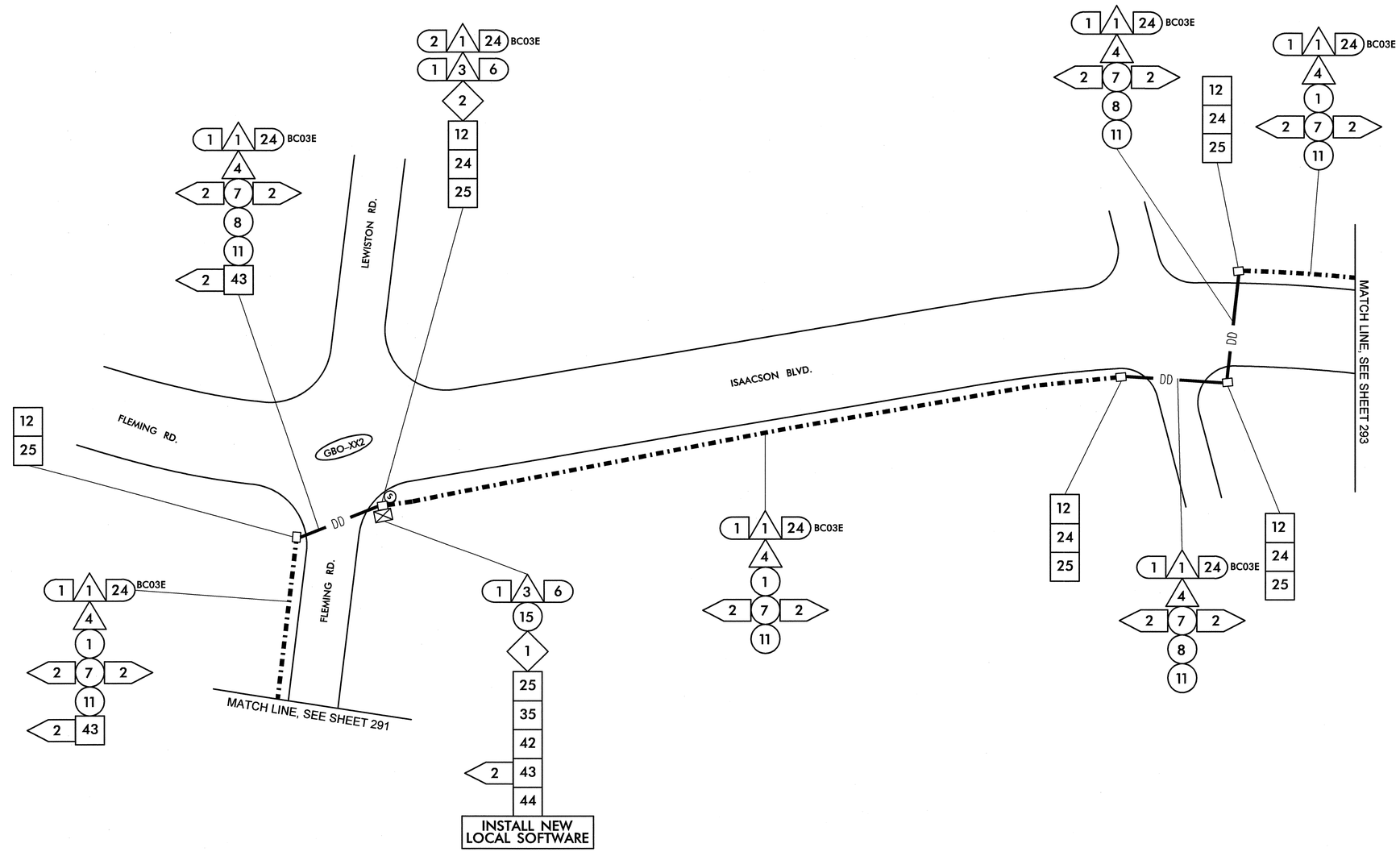
PROJECT REFERENCE NO.	SHEET NO.
U-4711	292



△1	INSTALL SMFO CABLE
△2	INSTALL PLENUM RATED FIBER OPTIC CABLE
△3	INSTALL FIBER OPTIC DROP CABLE
△4	INSTALL TRACER WIRE
△5	REUSE NCDOT SMFO CABLE
△6	REUSE GDOT SMFO CABLE
(1)	TRENCH
(2)	INSTALL PVC CONDUIT
(3)	INSTALL RIGID, GALVANIZED STEEL CONDUIT
(4)	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
(5)	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
(6)	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
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(8)	DIRECTIONAL DRILL CONDUIT
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(15)	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
(16)	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
(17)	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
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(19)	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
◇1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
◇2	INSTALL UNDERGROUND SPLICE ENCLOSURE
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◇5	INSTALL BASE MOUNTED SPLICE CABINET
◇6	REMOVE EXISTING SPLICE CABINET
◇7	INSTALL TERMINAL SPLICE BOX
◇8	MODIFY EXISTING SPLICE ENCLOSURE
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Integrated Mobility Division
750 Greenfield Pkwy., Garner, NC 27529

N

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0292.dgn

2/20/2008
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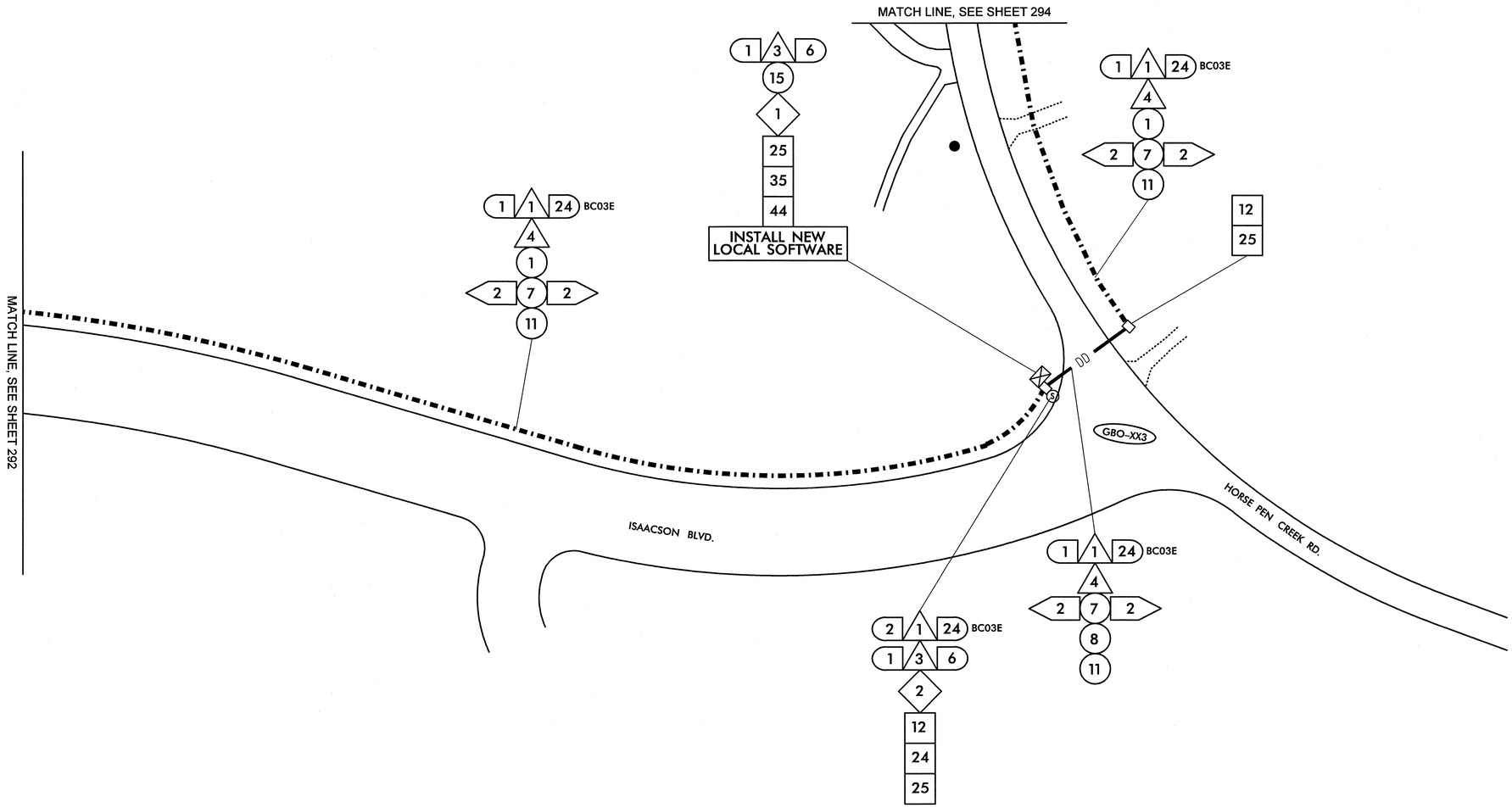
PROJECT REFERENCE NO.	SHEET NO.
U-4711	293



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18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
DIVISION OF HIGHWAYS
DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE DATE 2/20/08
CADD Filenames ...\Sht0293.dgn

2/20/2008
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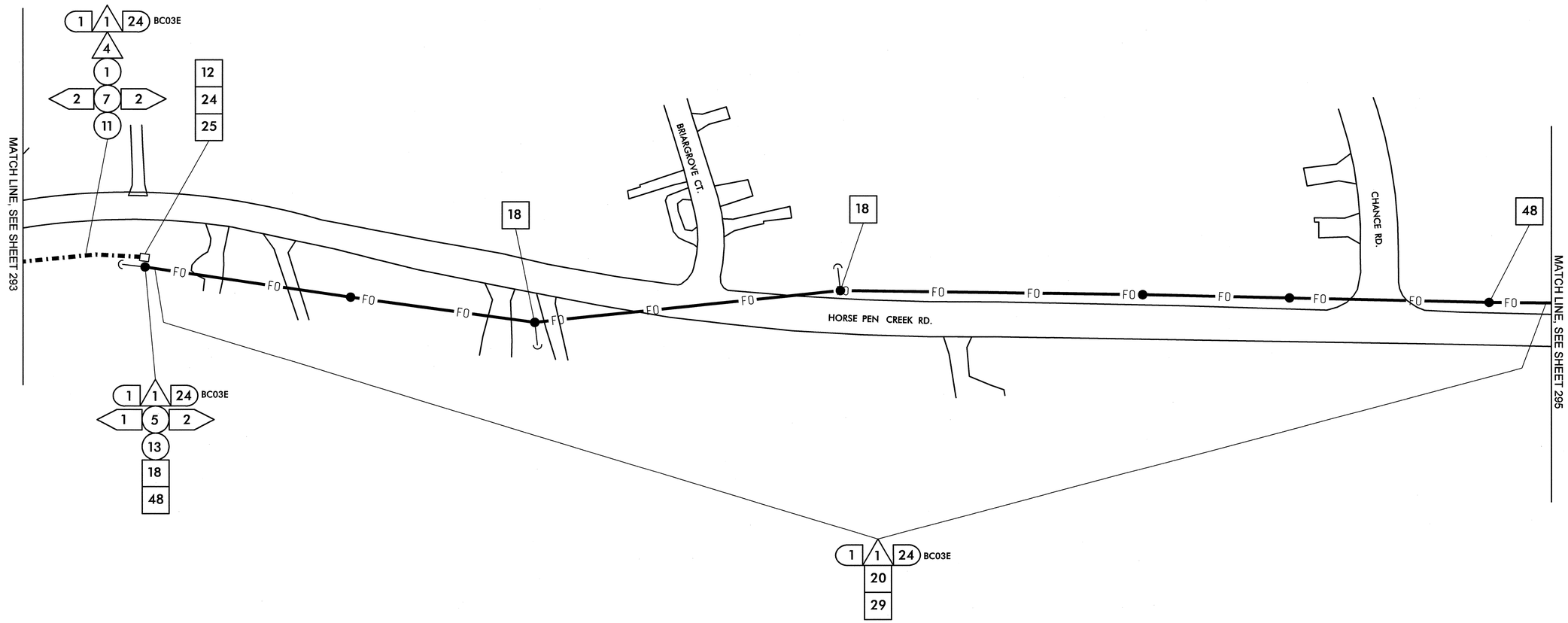
PROJECT REFERENCE NO.	SHEET NO.
U-4711	294



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
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19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
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40	INSTALL RADIO TRANSCEIVER
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53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0294.dgn

2/20/2008
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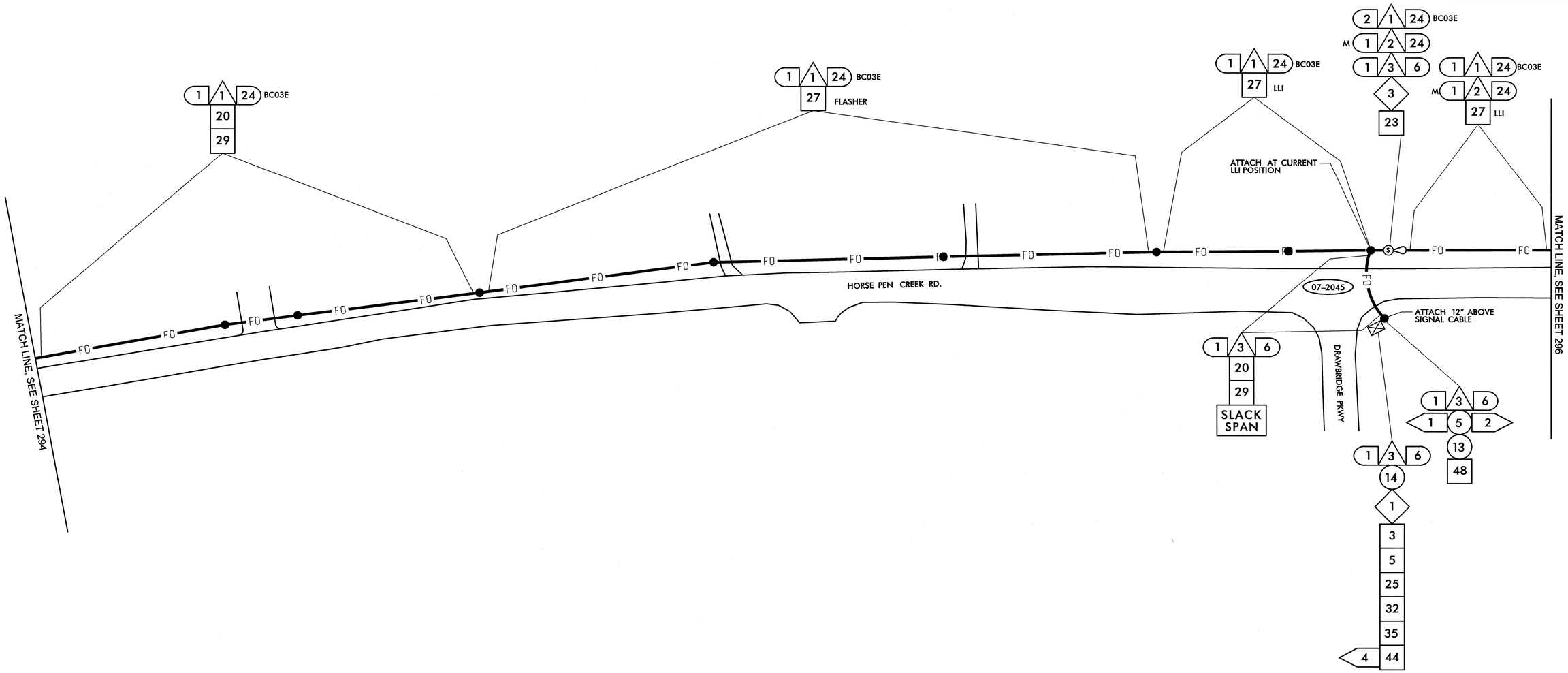
PROJECT REFERENCE NO.	SHEET NO.
U-4711	295



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
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(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht295m.dgn

2/20/2008
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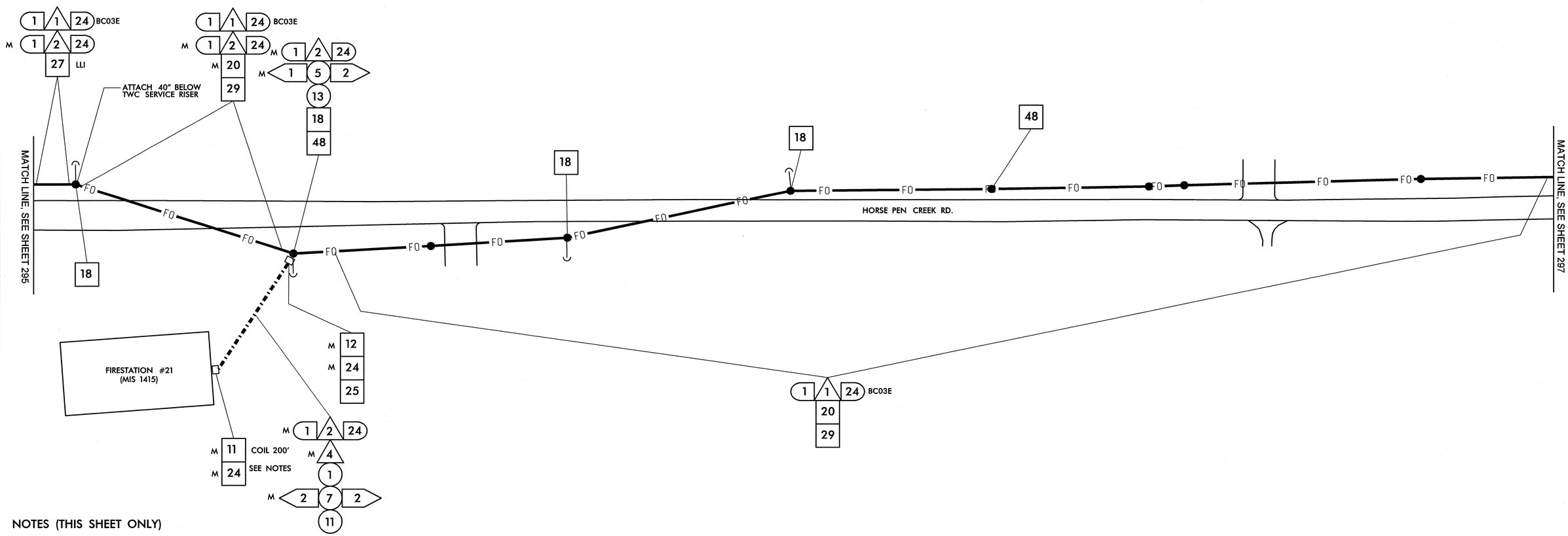
PROJECT REFERENCE NO.	SHEET NO.
U-4711	296



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
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23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
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46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
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NOTE:
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PLANS PREPARED IN THE OFFICE OF:

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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0296m.dgn

2/20/2008
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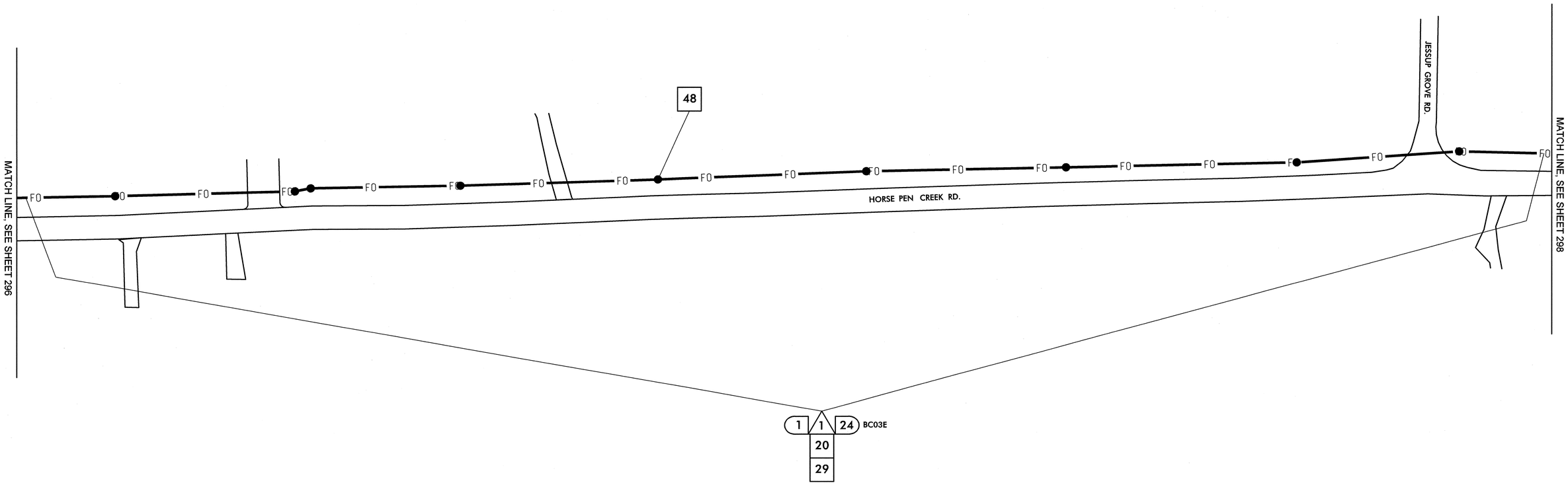
PROJECT REFERENCE NO.	SHEET NO.
U-4711	297



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
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9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
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11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH		
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE		
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER		
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR		
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT		
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE		
50	INSTALL ANTENNA CABLE				
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT				
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0297.dgn

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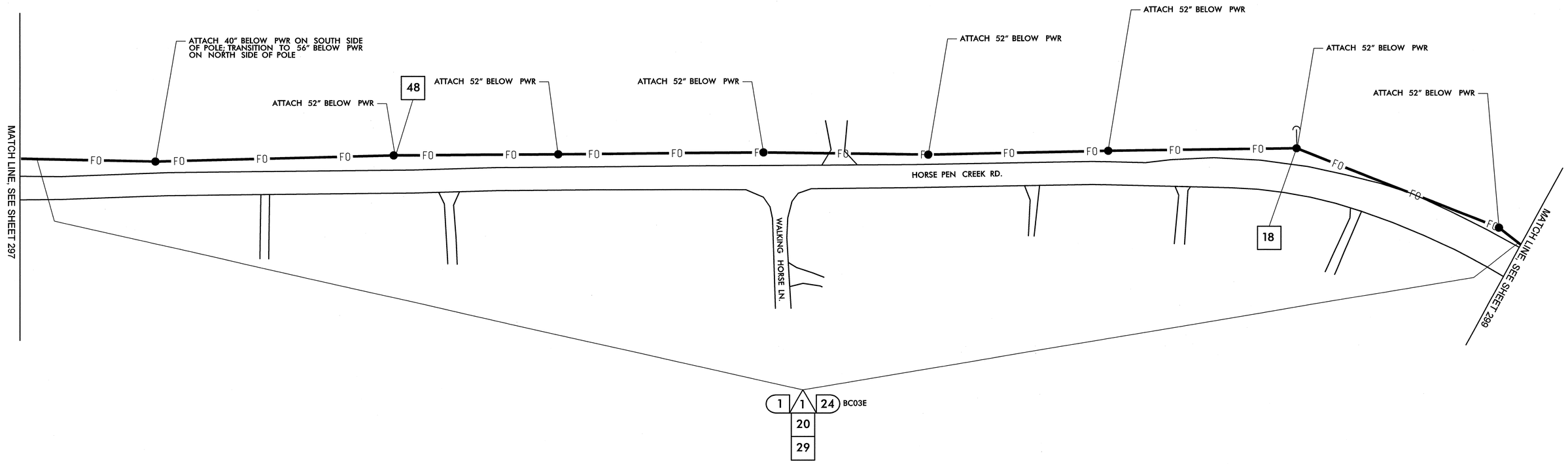
PROJECT REFERENCE NO.	SHEET NO.
U-4711	298



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
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50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
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NOTE:
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PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0298.dgn

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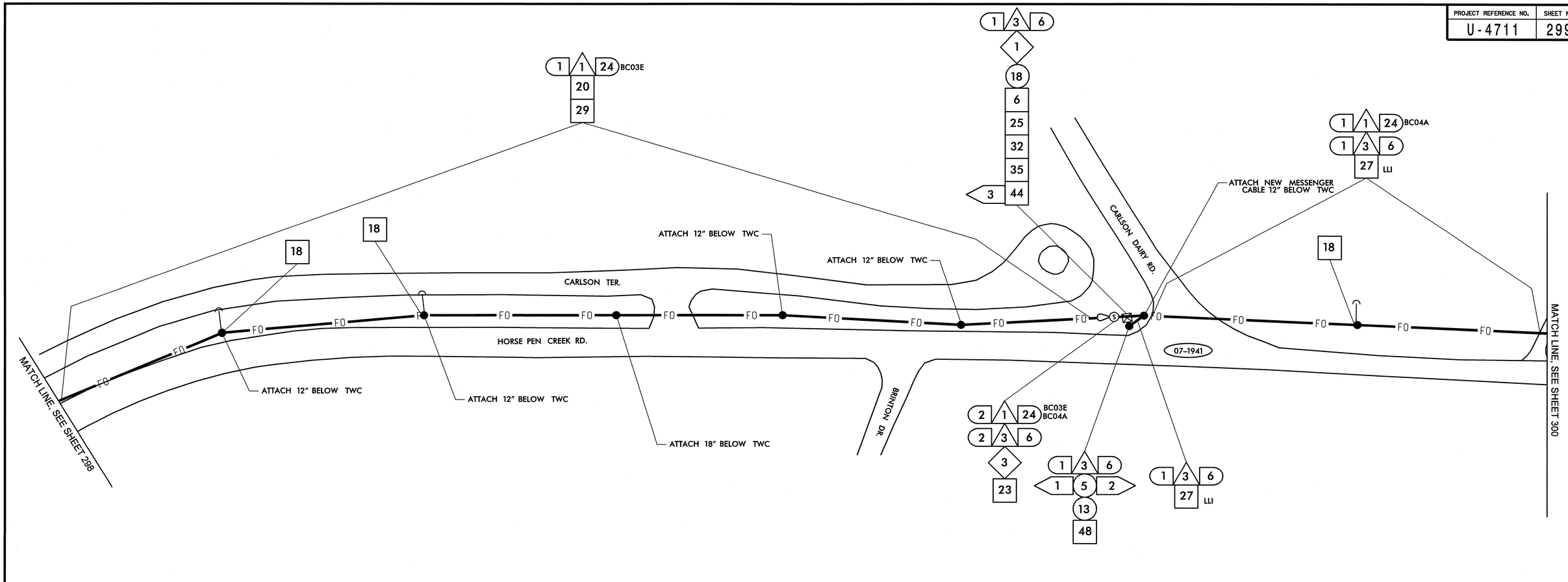
PROJECT REFERENCE NO.	SHEET NO.
U-4711	299



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2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
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10	INSTALL CABLE(S) IN EXISTING CONDUIT
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19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
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34	INSTALL GENERATOR POWER INLET BOX
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0299.dgn

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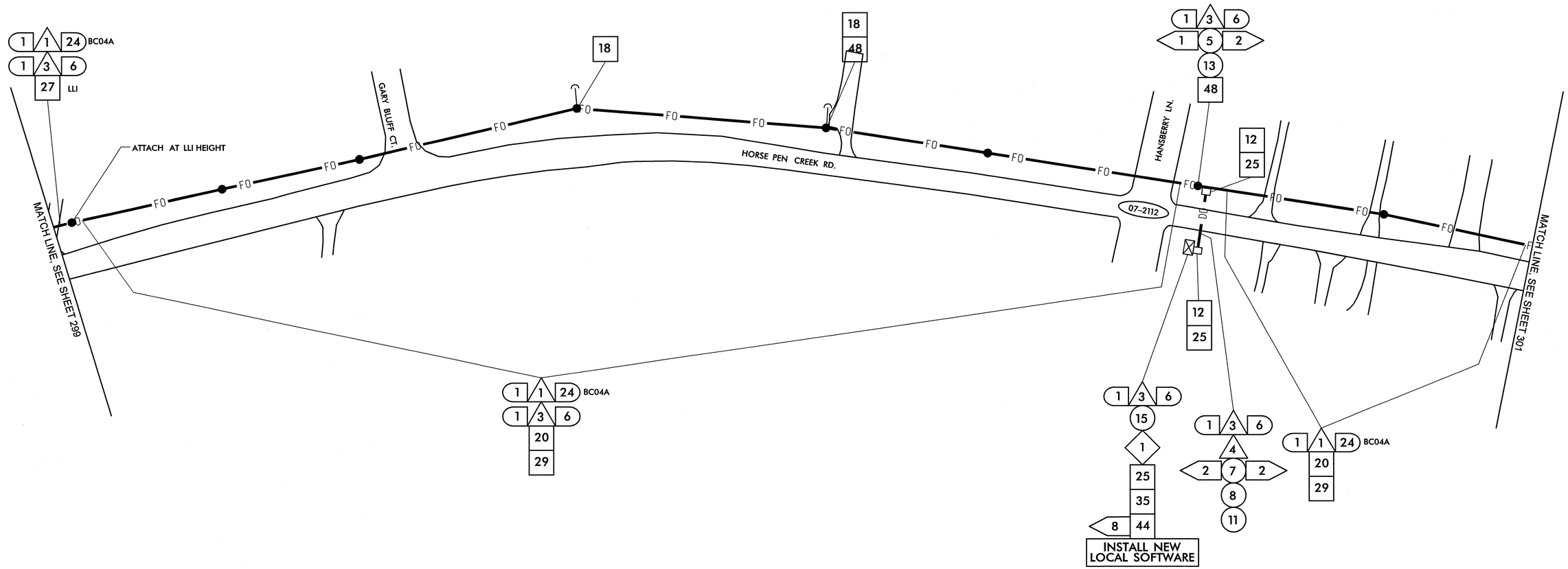
PROJECT REFERENCE NO.	SHEET NO.
U-4711	300



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Traffic Engineering and Safety Systems Branch
Transportation Management Unit
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0300.dgn

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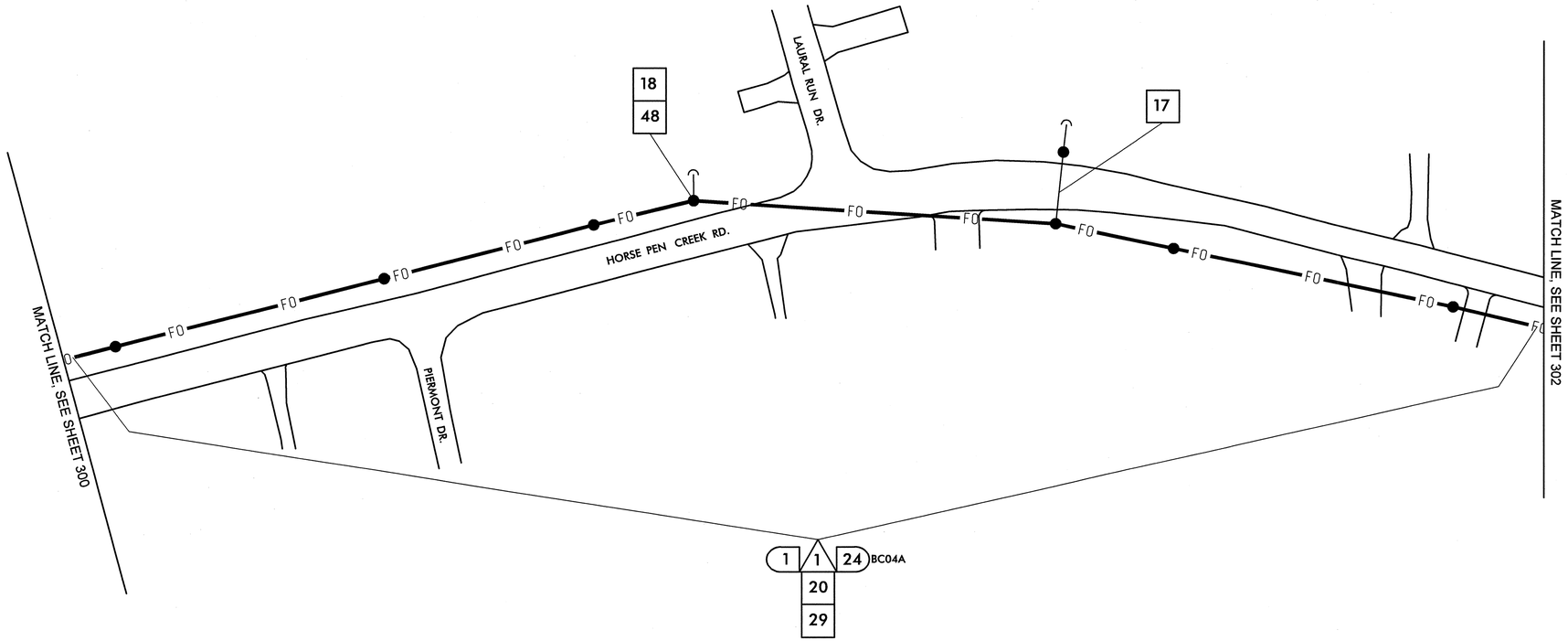
PROJECT REFERENCE NO.	SHEET NO.
U-4711	301



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PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

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2/20/2008
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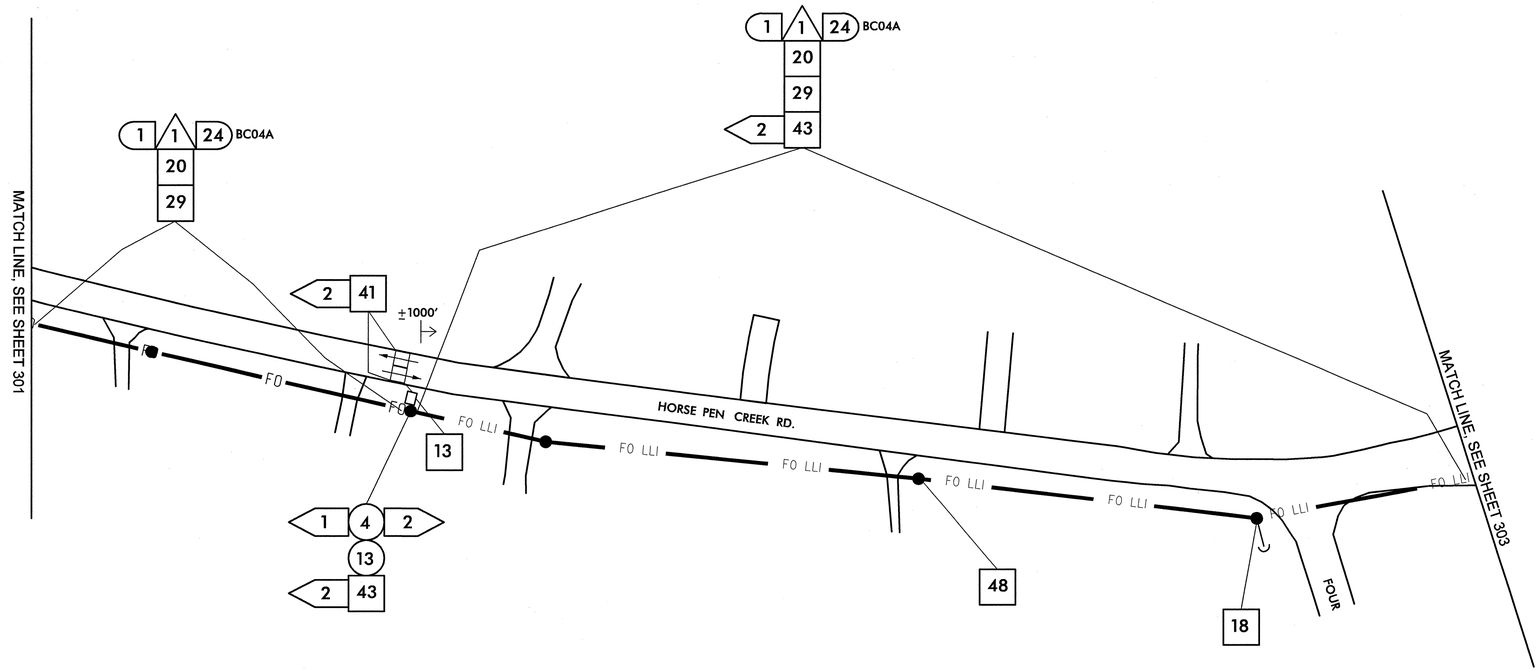
PROJECT REFERENCE NO.	SHEET NO.
U-4711	302



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
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56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filenames ...\Sht0302.dgn

2/20/2008
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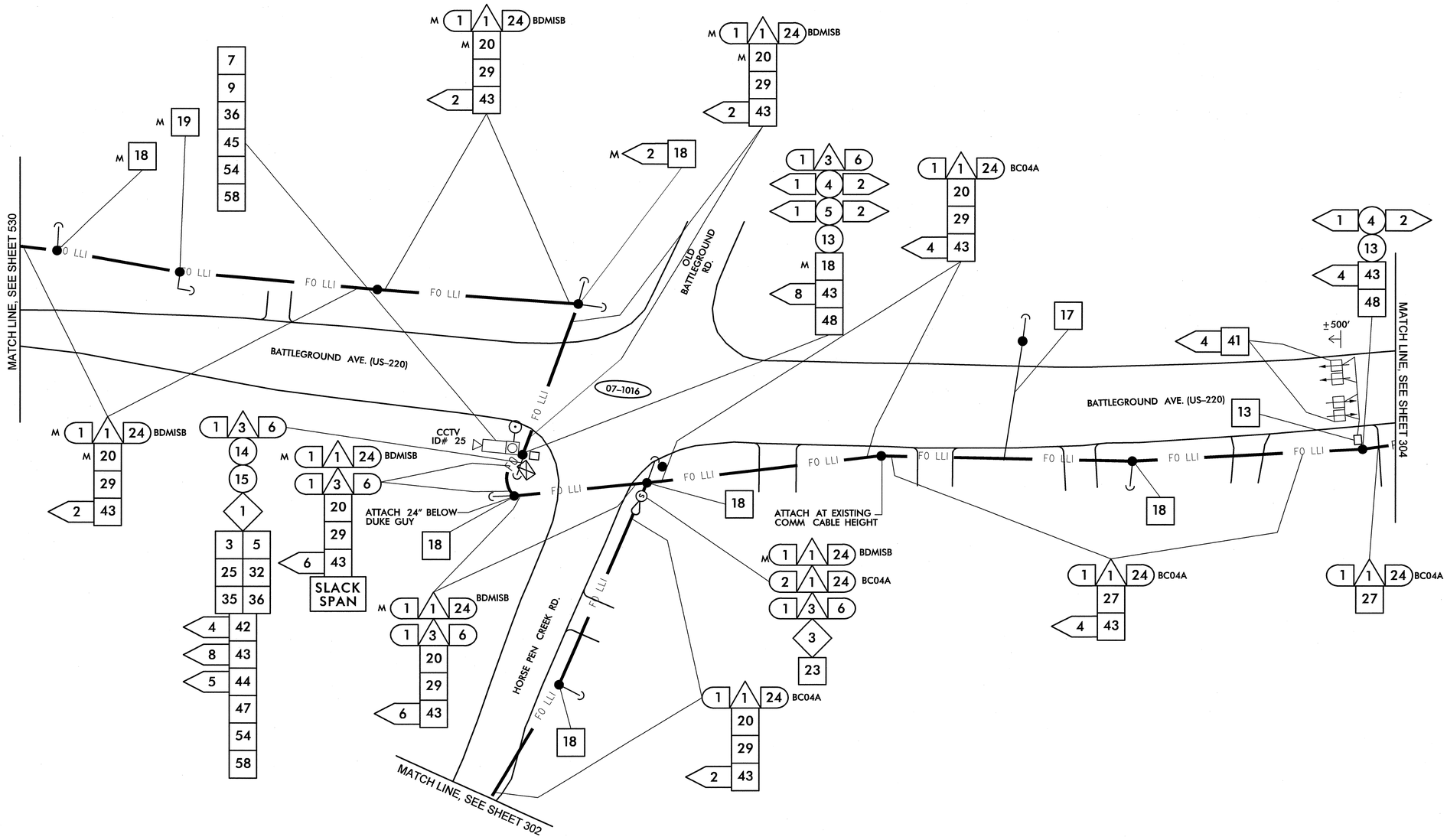
PROJECT REFERENCE NO.	SHEET NO.
U-4711	303



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Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
Division of Highways
Department of Transportation
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0303m.dgn

2/20/2008
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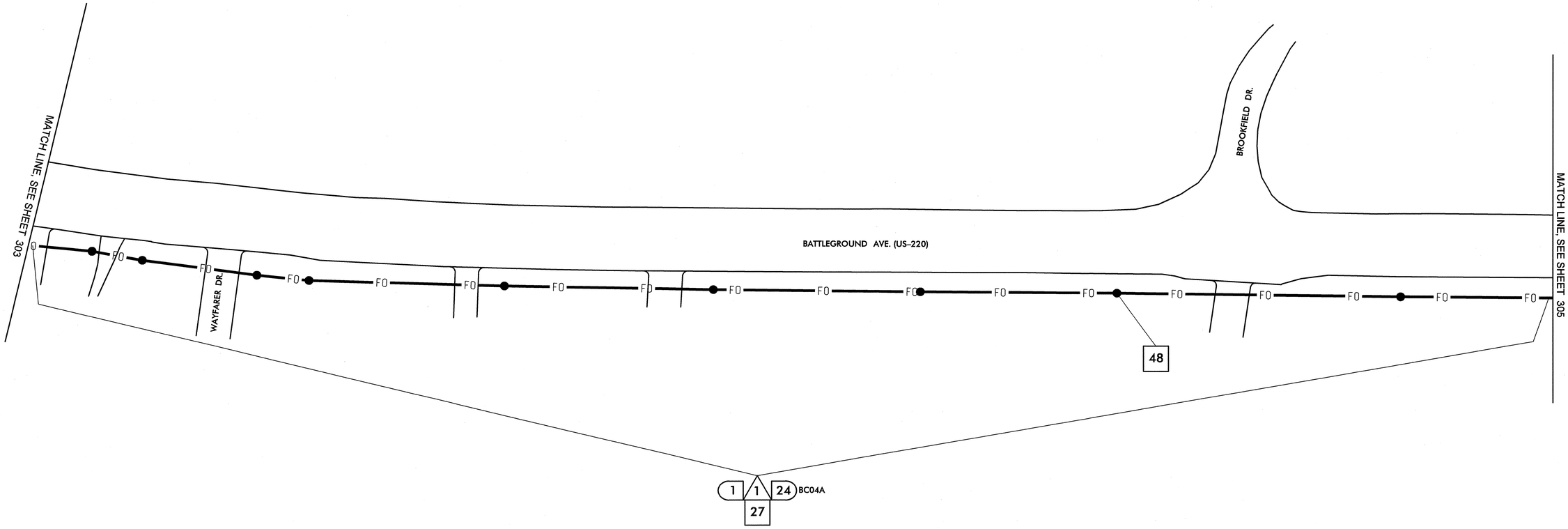
PROJECT REFERENCE NO.	SHEET NO.
U-4711	304



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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0304.dgn

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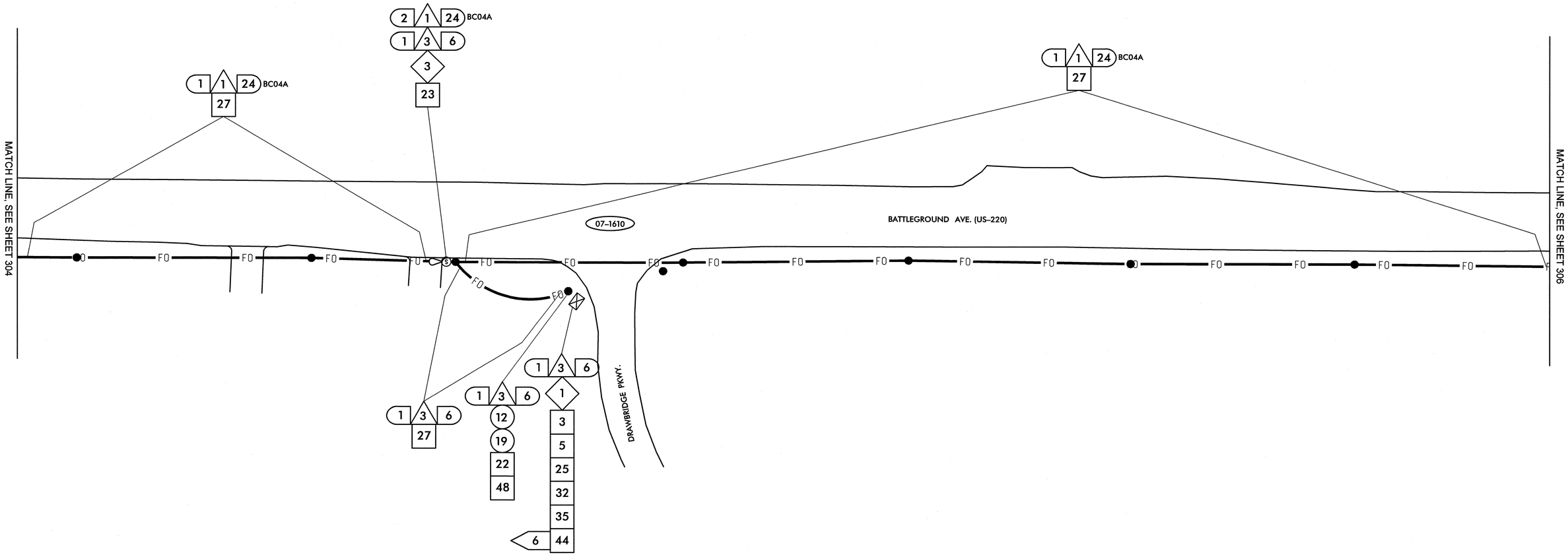
PROJECT REFERENCE NO.	SHEET NO.
U-4711	305



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
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44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
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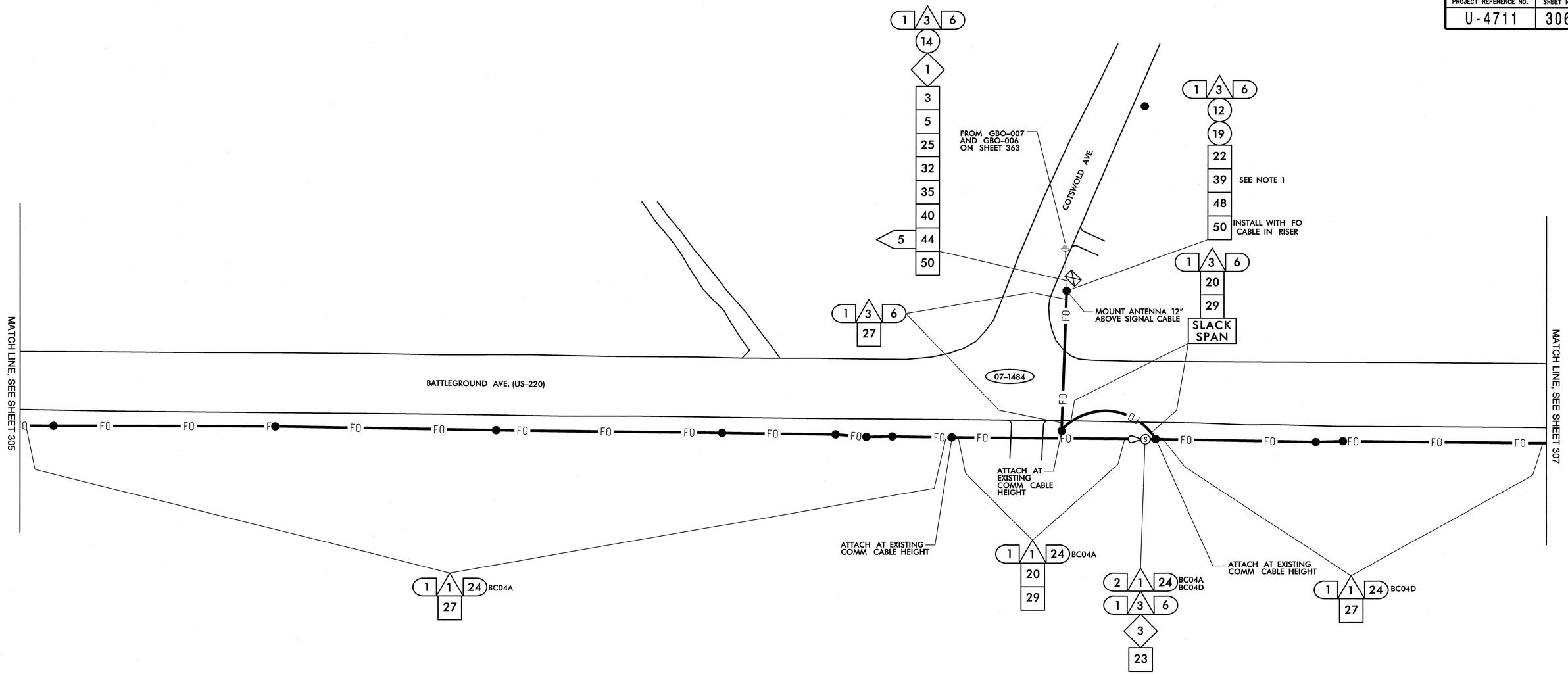
PROJECT REFERENCE NO.	SHEET NO.
U-4711	306



NOTES (THIS SHEET ONLY):

1. ANTENNA ORIENTATION IS FOR DISPLAY PURPOSES ONLY. FINAL ORIENTATION TO BE DETERMINED IN THE FIELD.

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
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45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
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51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety System Branch
Transportation Management Unit
Division of Highways
State of North Carolina Department of Transportation
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0306.dgn

2/20/2008
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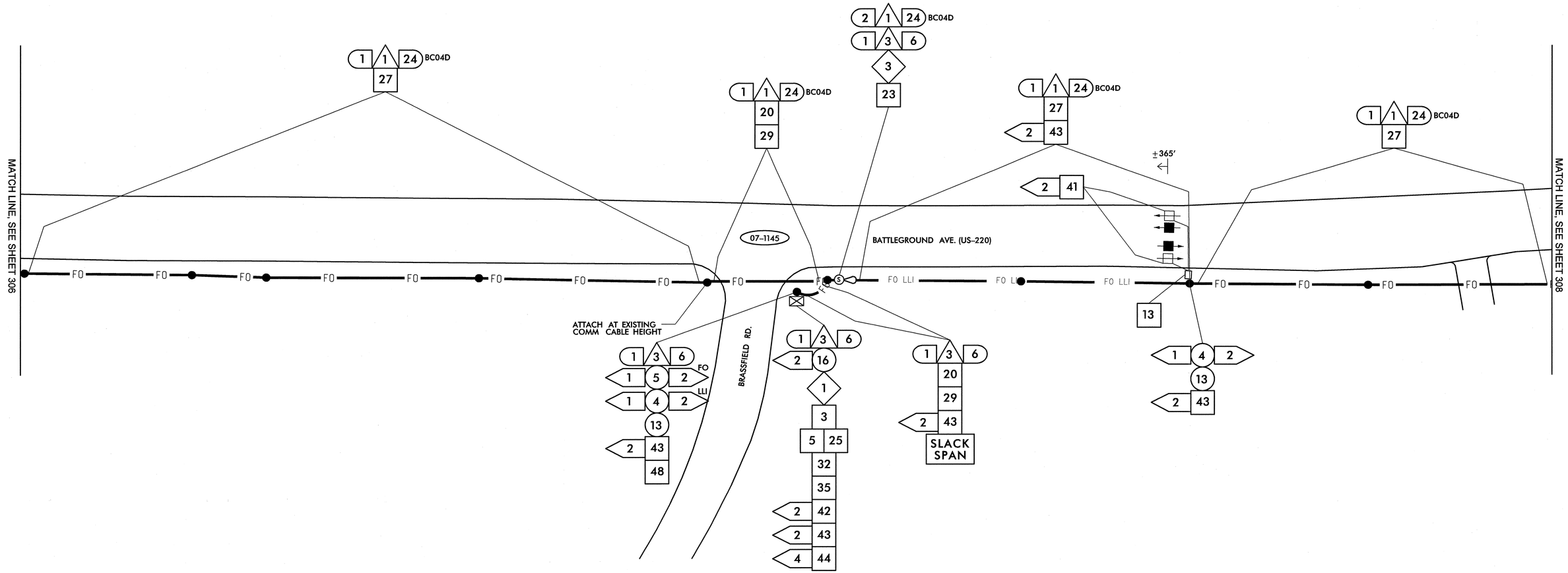
PROJECT REFERENCE NO.	SHEET NO.
U-4711	307



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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 4/17/08

CADD Filename: ...\Sht0307.dgn

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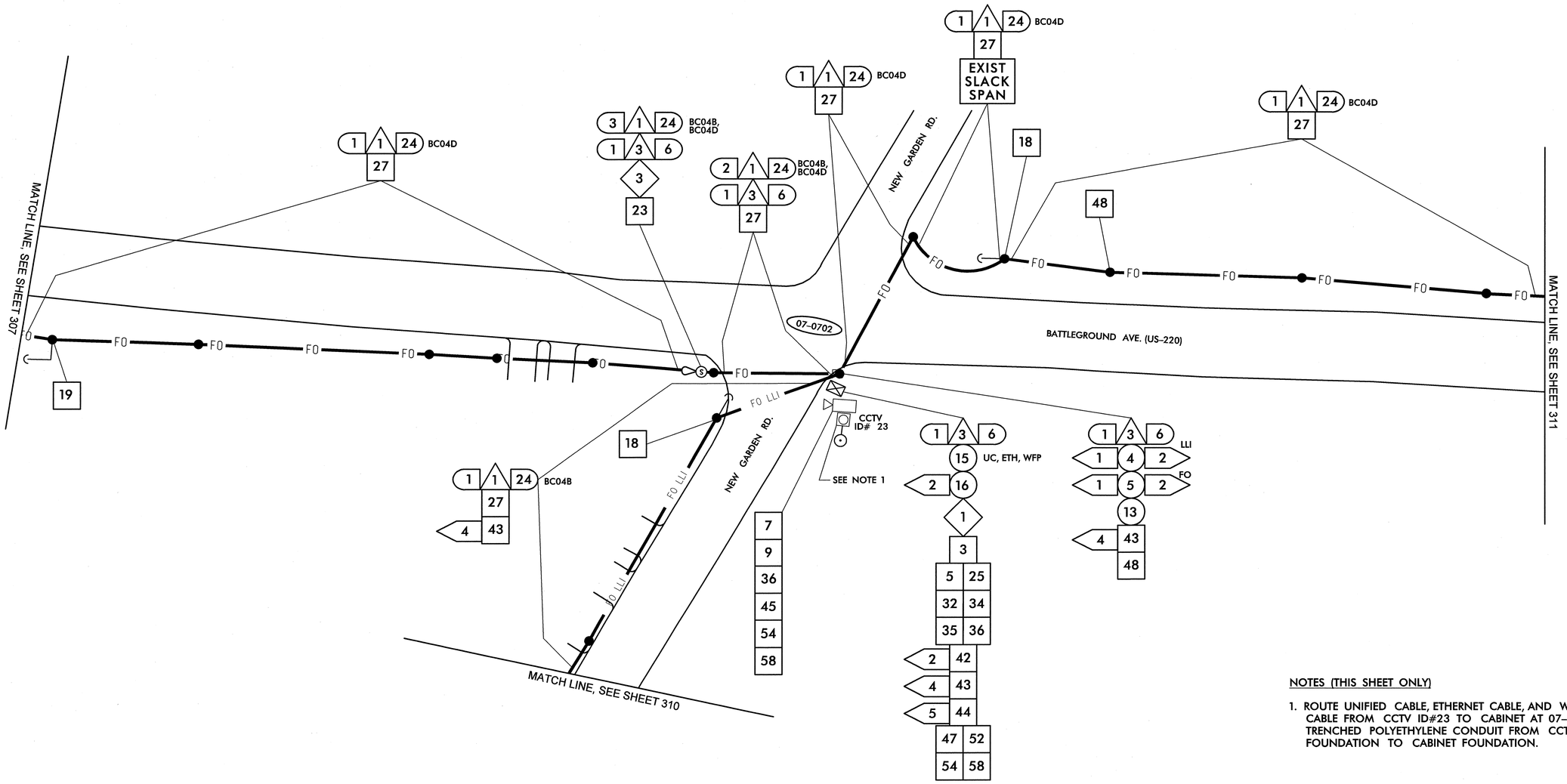
PROJECT REFERENCE NO.	SHEET NO.
U-4711	308



NOTES (THIS SHEET ONLY)

1. ROUTE UNIFIED CABLE, ETHERNET CABLE, AND WI FI POWER CABLE FROM CCTV ID#23 TO CABINET AT 07-0702 VIA NEW TRENCHED POLYETHYLENE CONDUIT FROM CCTV POLE FOUNDATION TO CABINET FOUNDATION.

1	INSTALL SMFO CABLE
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008		REVIEWED BY: K.W. SMITH	
PREPARED BY: K.D. VANPATTEN		REVIEWED BY: M.W. DUNZO	
REVISIONS		INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0308.dgn

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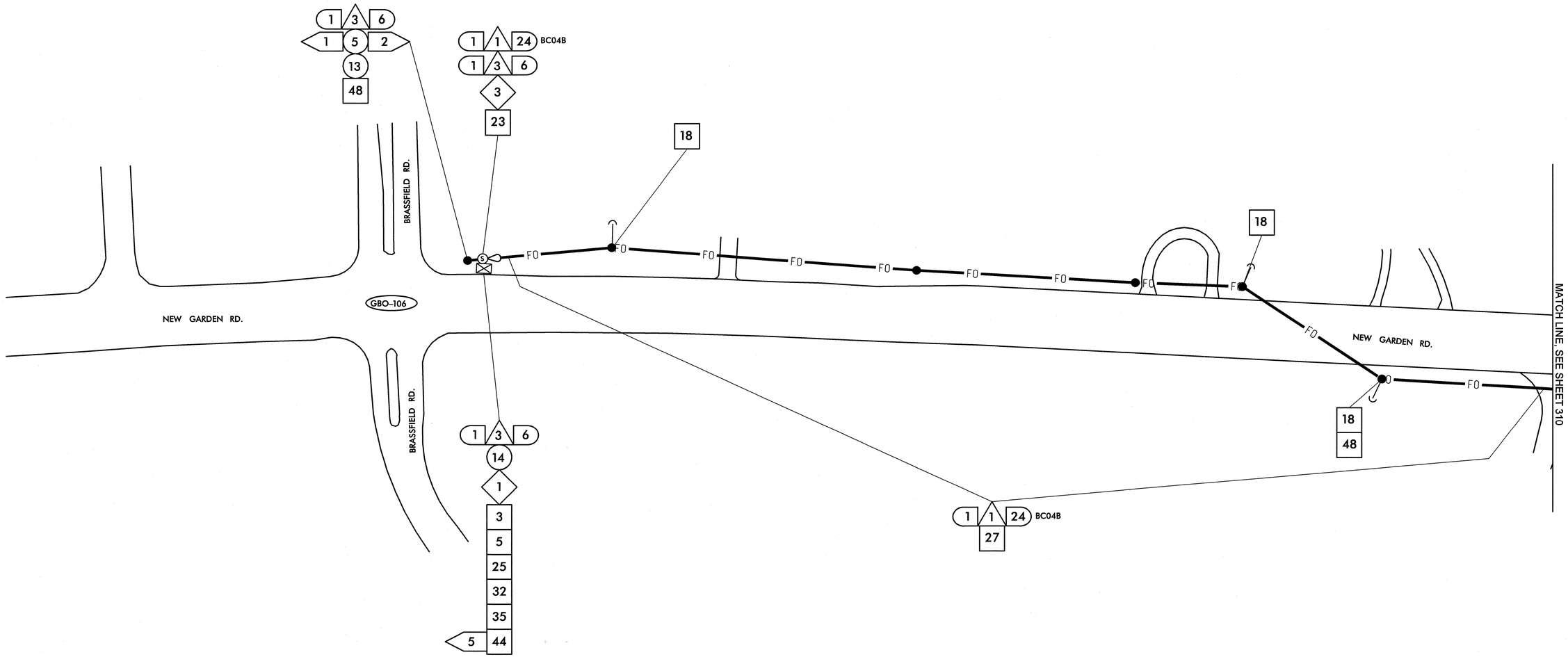
PROJECT REFERENCE NO.	SHEET NO.
U-4711	309



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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0309.dgn

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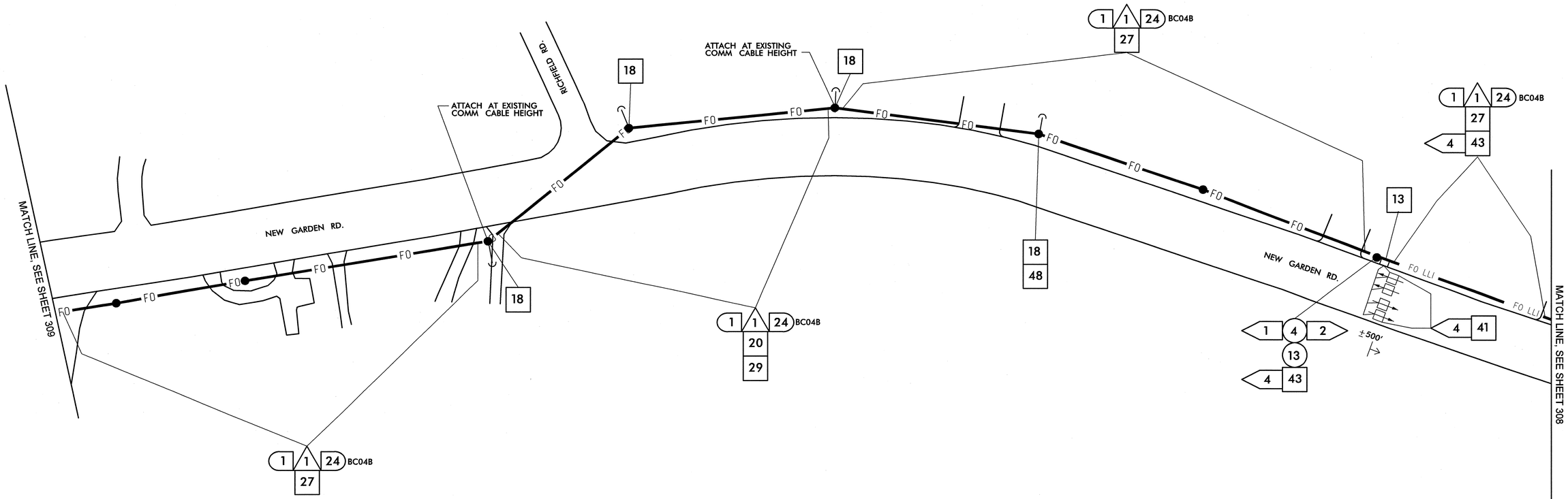
PROJECT REFERENCE NO.	SHEET NO.
U-4711	310



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12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING

1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE

1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety System Branch
Intelligent Transportation Systems
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0310.dgn

2/20/2008
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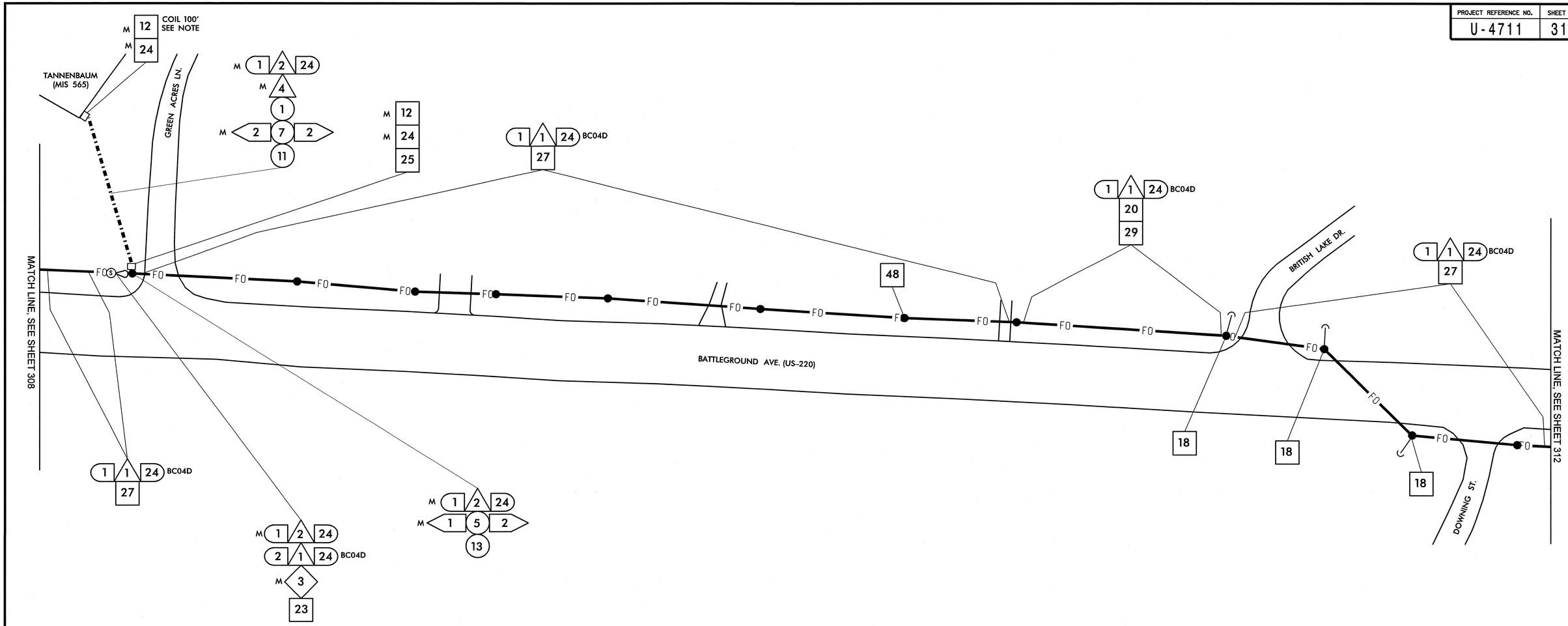
PROJECT REFERENCE NO.	SHEET NO.
U-4711	311



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht031lm.dgn

2/20/2008
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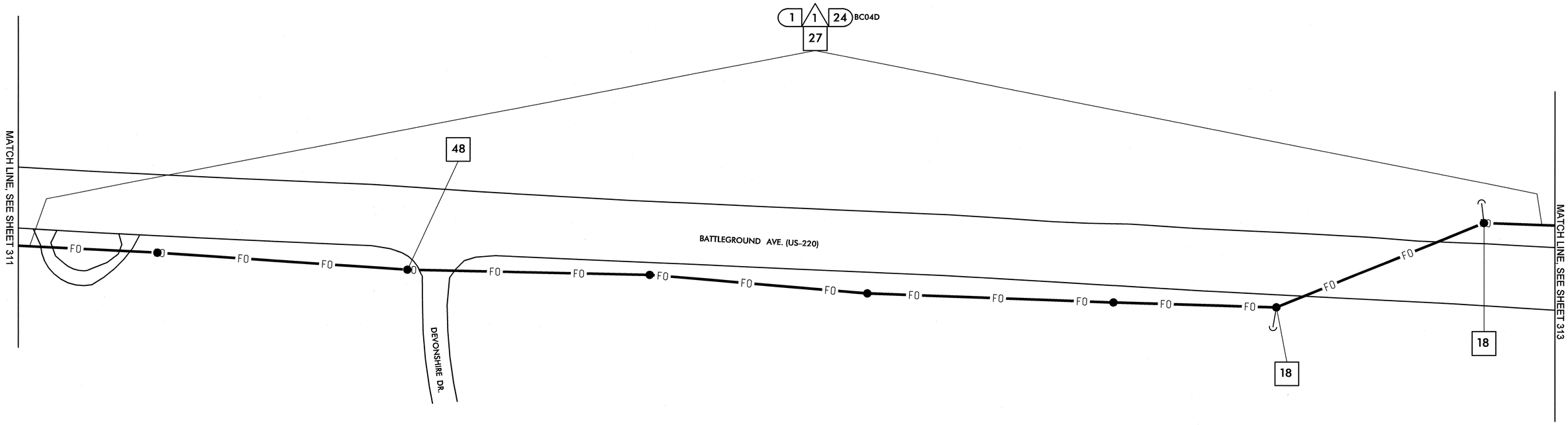
PROJECT REFERENCE NO.	SHEET NO.
U-4711	312



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH		
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE		
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER		
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR		
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT		
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE		
50	INSTALL ANTENNA CABLE				
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT				
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008		REVIEWED BY: K.W. SMITH	
PREPARED BY: K.D. VANPATTEN		REVIEWED BY: M.W. DUNZO	
REVISIONS		INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0312.dgn

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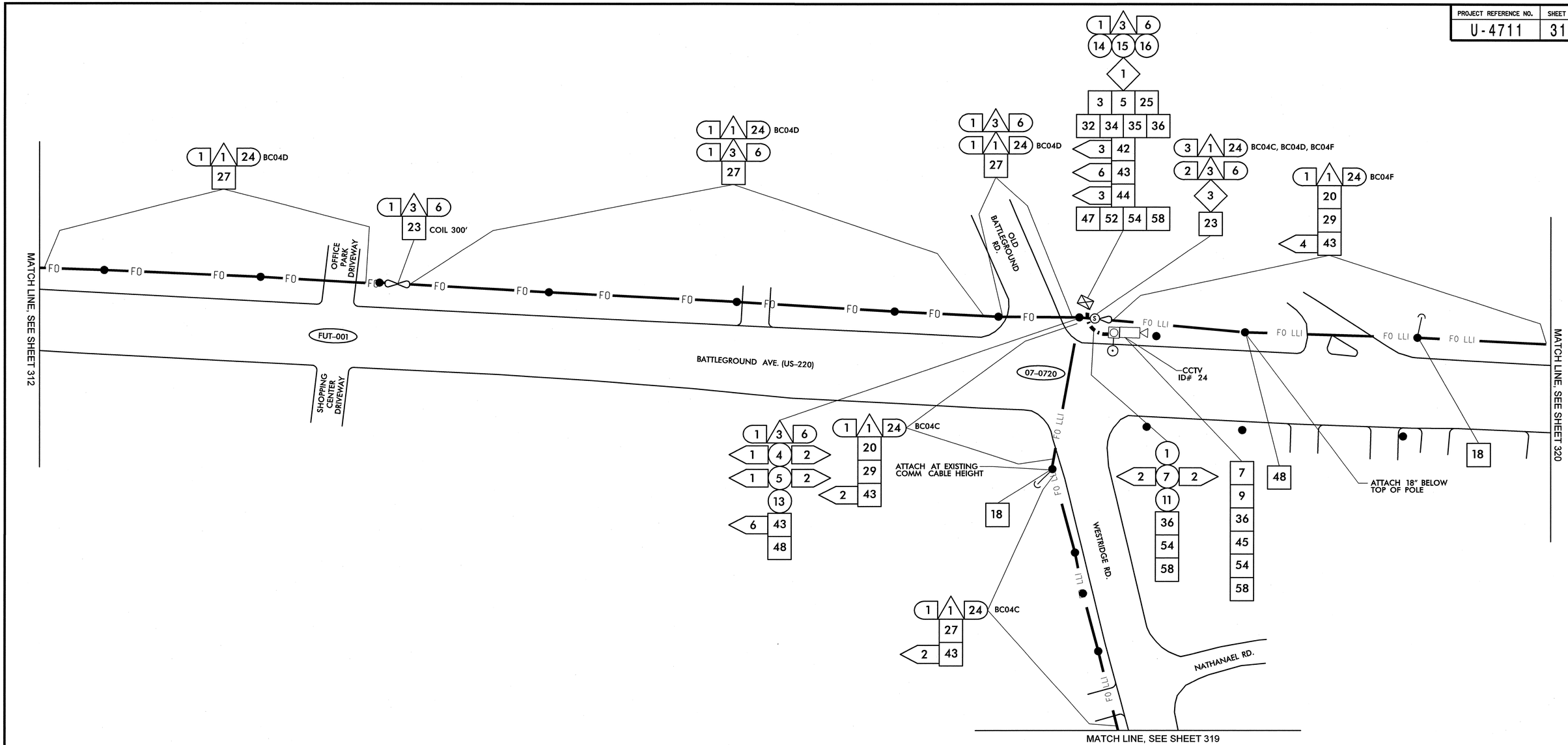
PROJECT REFERENCE NO.	SHEET NO.
U-4711	313



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
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11	INSTALL CABLE(S) IN NEW CONDUIT
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13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
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23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/22/08

CADD Filename: ...\Sht0313.dgn

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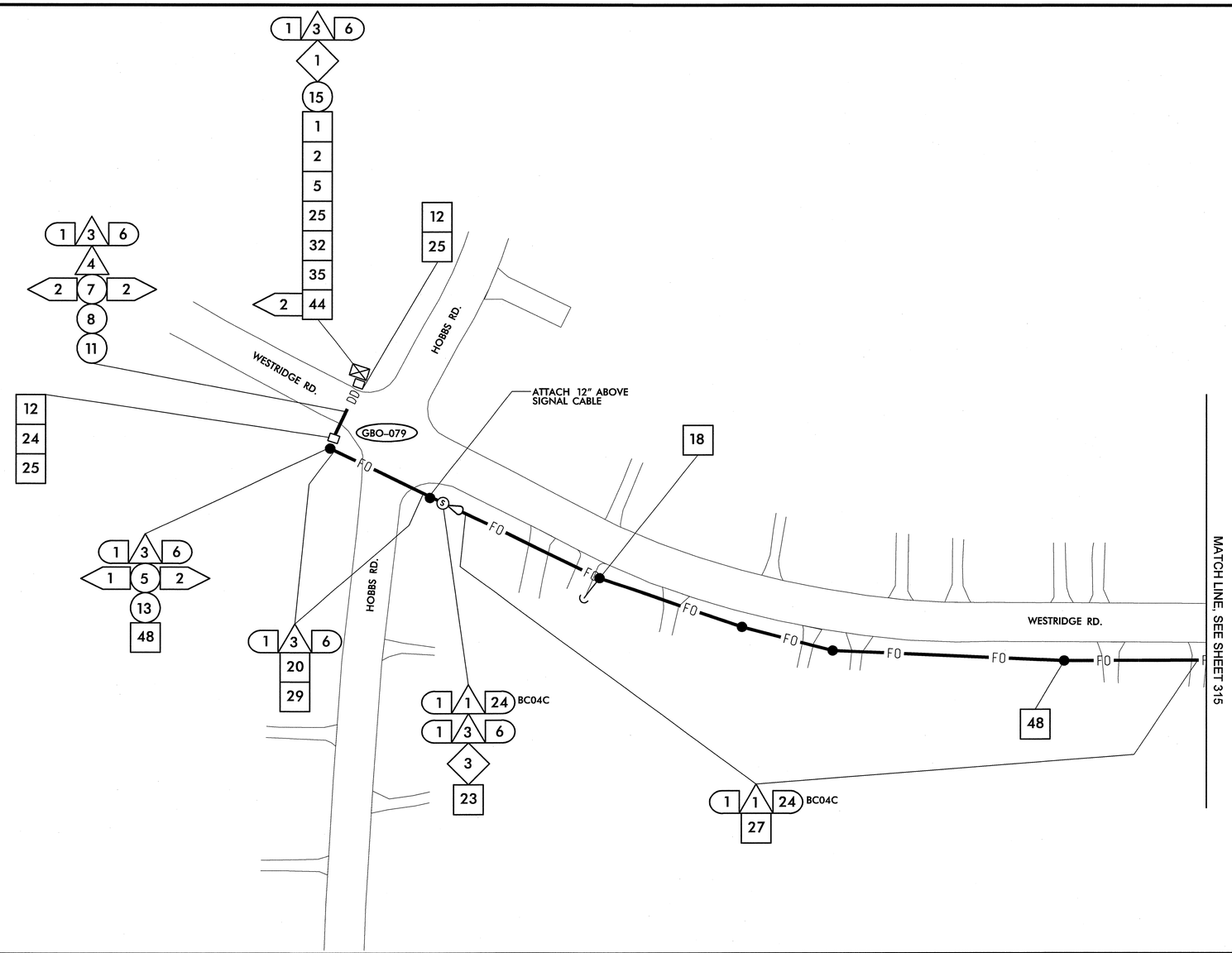
PROJECT REFERENCE NO.	SHEET NO.
U-4711	314



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2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
DIVISION OF HIGHWAYS
DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0314.dgn

2/20/2008
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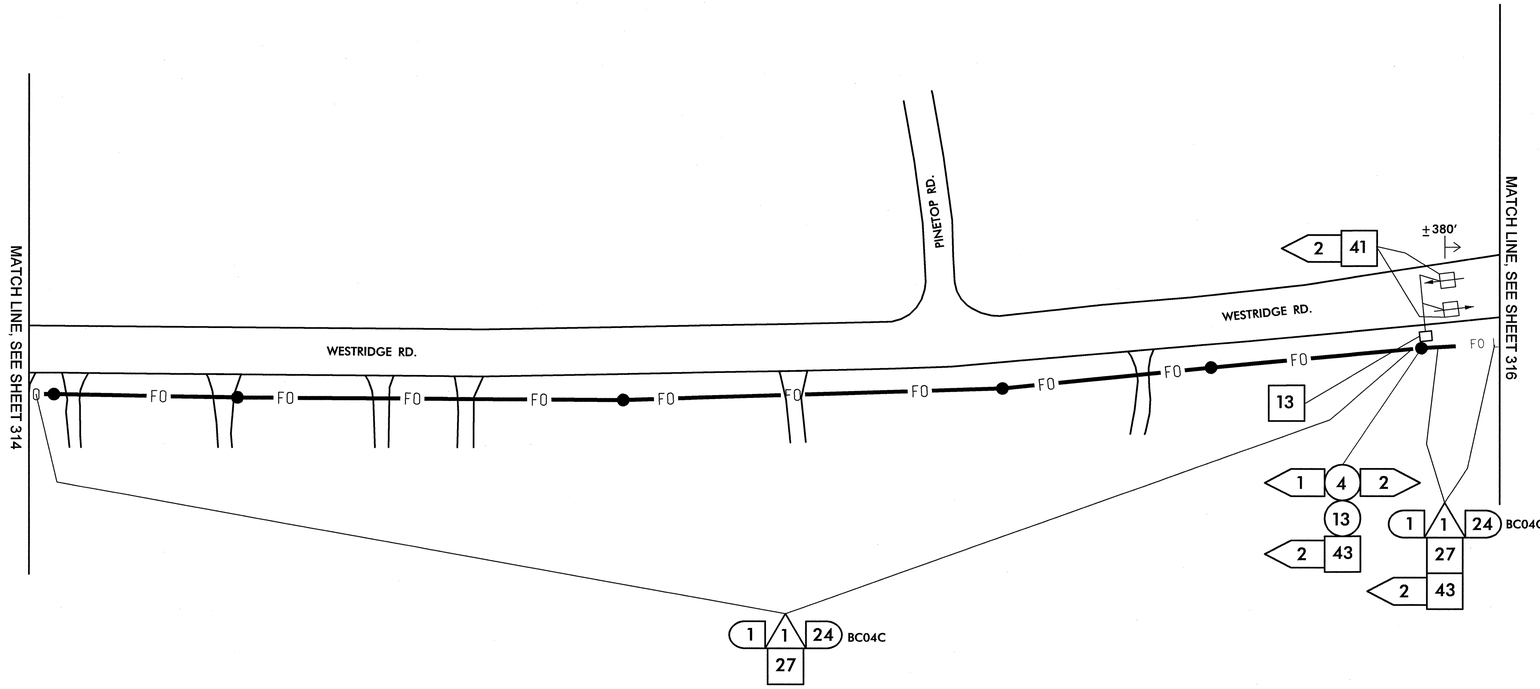
PROJECT REFERENCE NO.	SHEET NO.
U-4711	315



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
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8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
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14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
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19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
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4	INSTALL POLE MOUNTED SPLICE CABINET
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NOTE:
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PLANS PREPARED IN THE OFFICE OF:

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Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0315.dgn

2/20/2008
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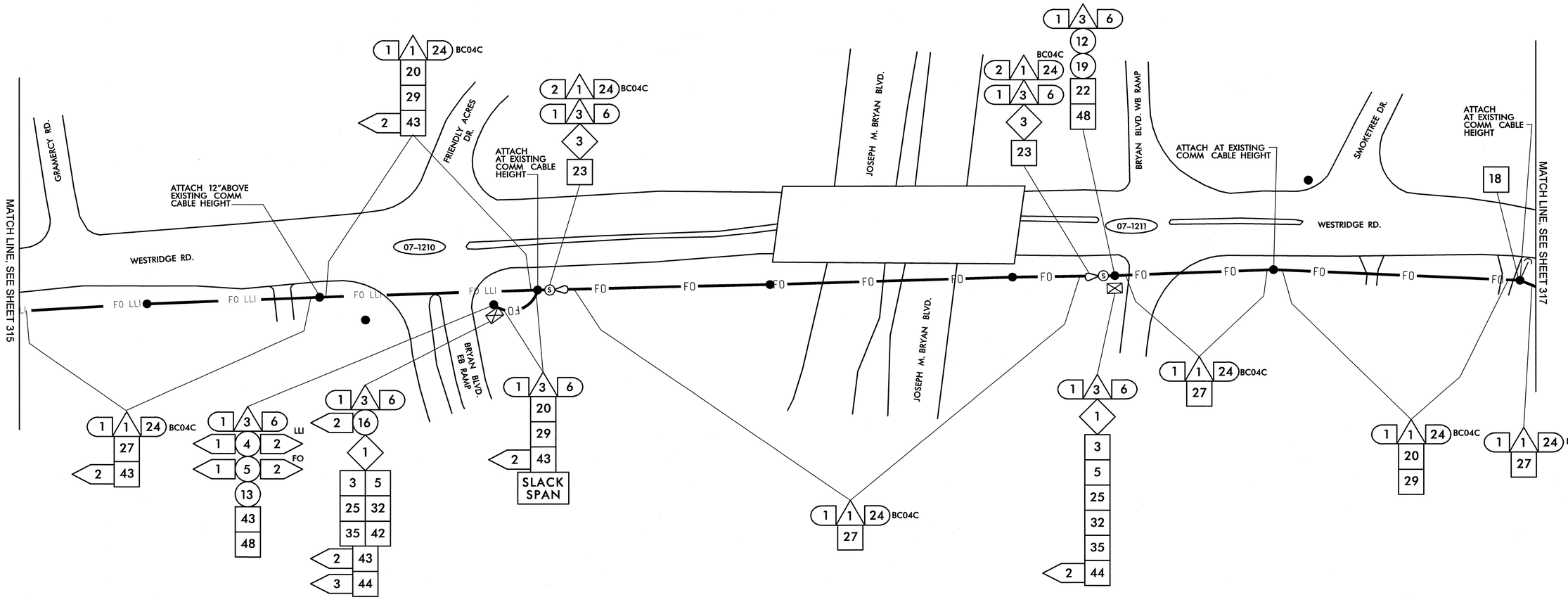
PROJECT REFERENCE NO.	SHEET NO.
U-4711	316



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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0316.dgn

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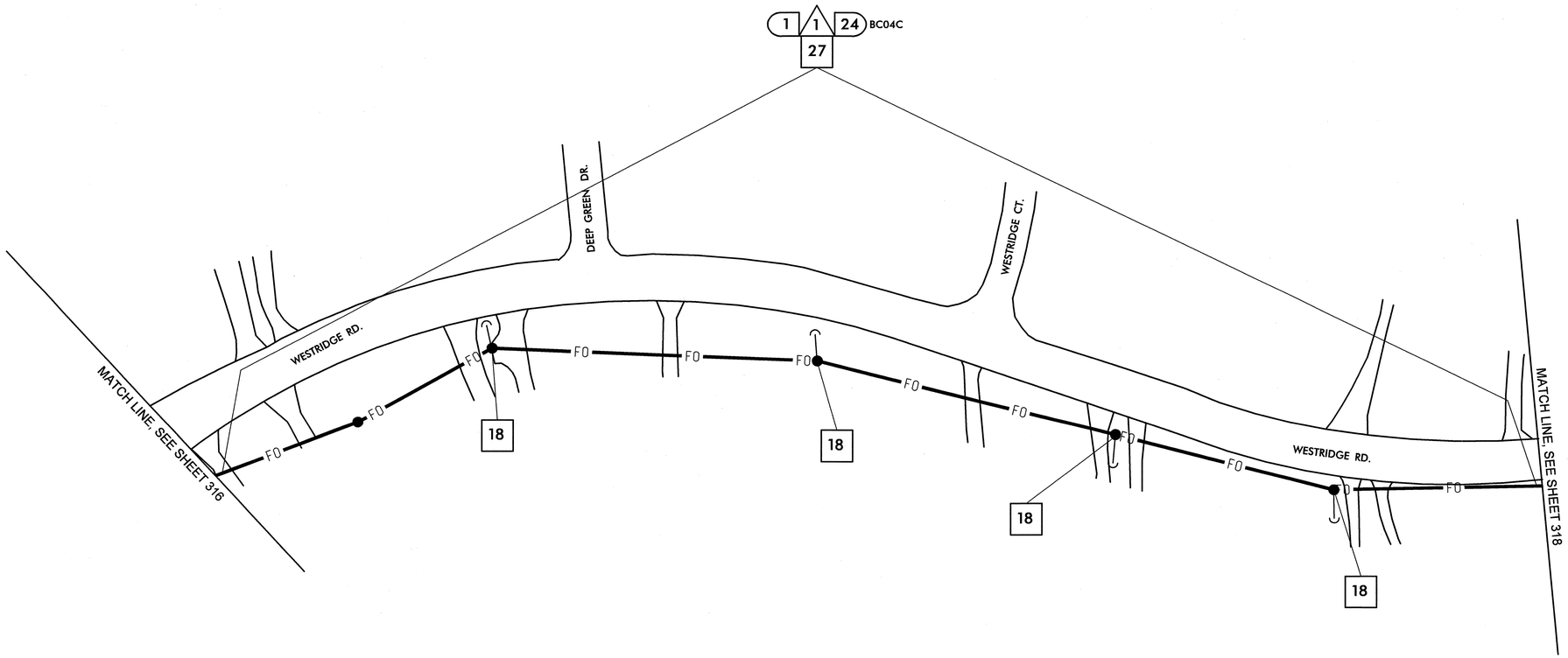
PROJECT REFERENCE NO.	SHEET NO.
U-4711	317



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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008		REVIEWED BY: K.W. SMITH	
PREPARED BY: K.D. VANPATTEN		REVIEWED BY: M.W. DUNZO	
REVISIONS		INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0317.dgn

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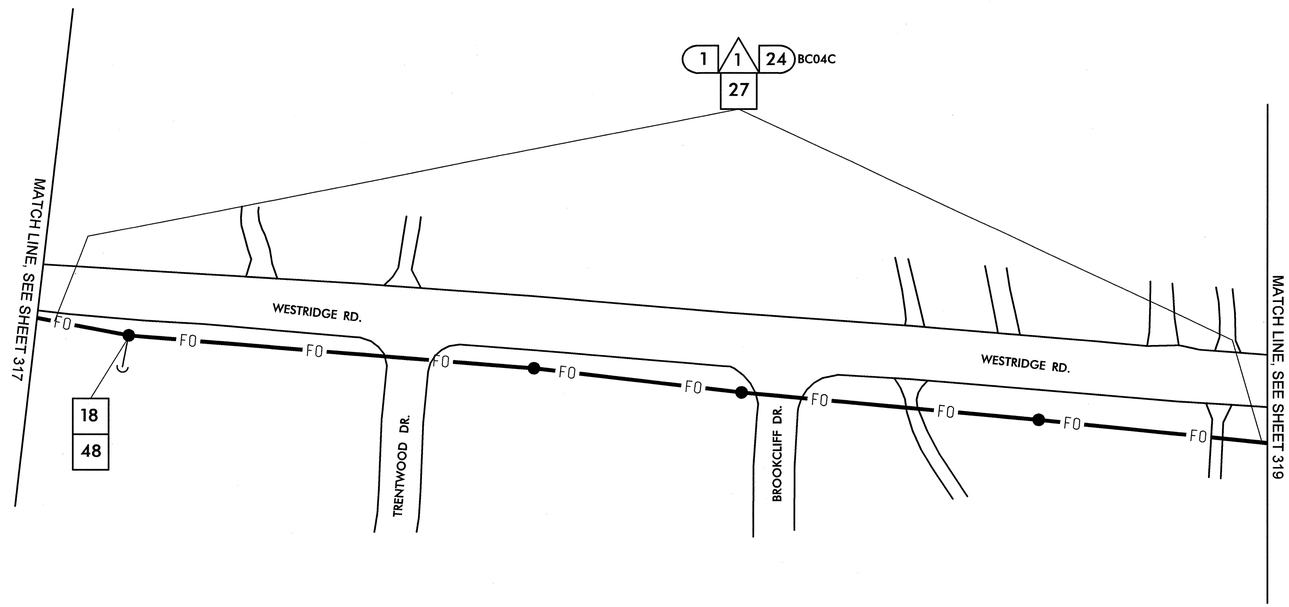
PROJECT REFERENCE NO.	SHEET NO.
U-4711	318



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23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Public Leadership and Safety Systems Board
Executive Director
Intelligent Transportation Systems
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

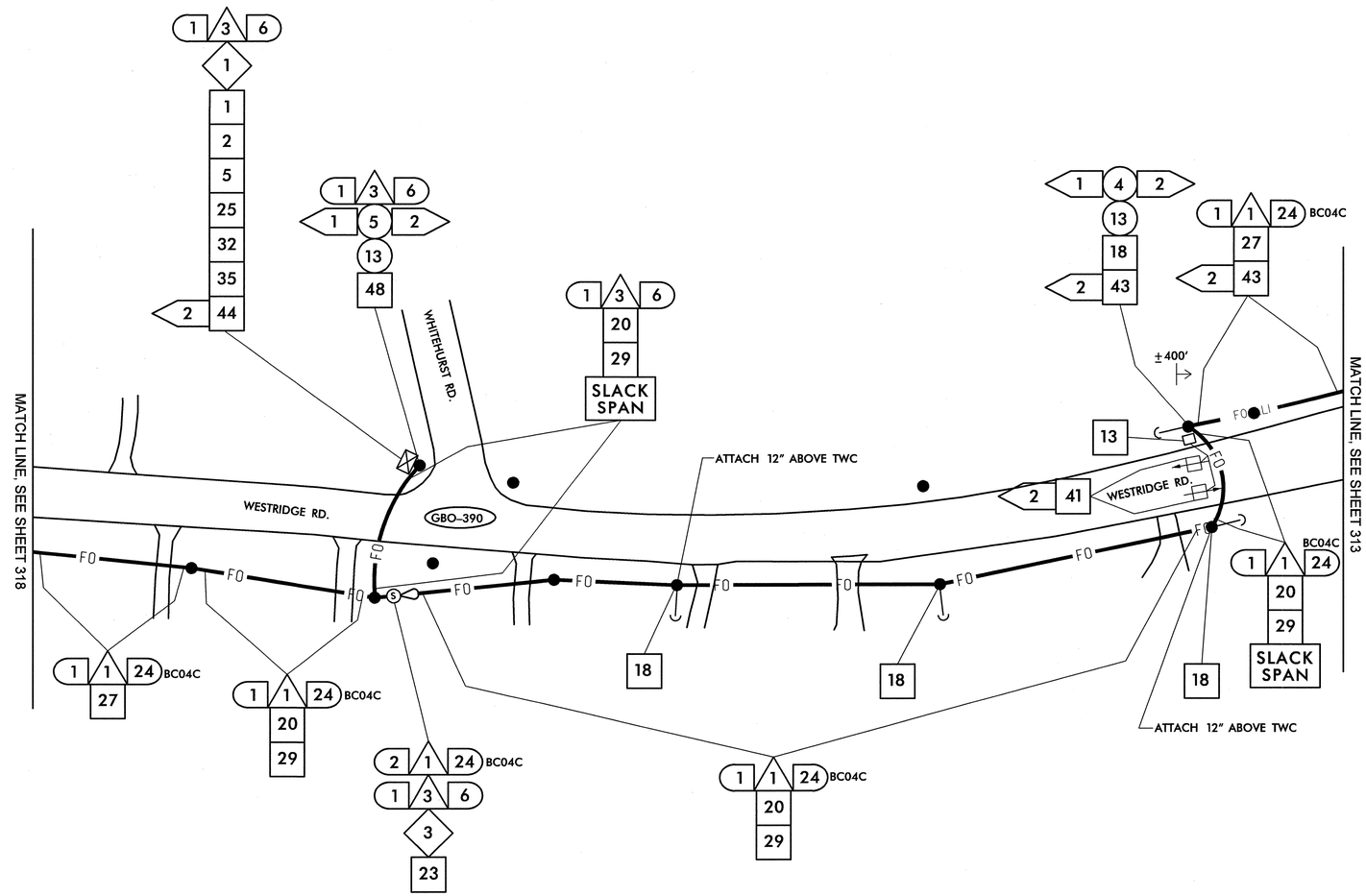
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0318.dgn

2/20/2008
f:\systems\projects\011462020 tg-boro mls\SHT0318.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	319



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE

26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
29	LASH CABLE(S) TO NEW MESSENGER CABLE	47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
30	INSTALL NEW ELECTRICAL SERVICE	48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
31	MODIFY EXISTING ELECTRICAL SERVICE	49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
32	INSTALL NEW CONTROLLER	50	INSTALL ANTENNA CABLE		
33	INSTALL EXISTING CABLE IN NEW CABINET	51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
34	INSTALL GENERATOR POWER INLET BOX	52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH				
36	INSTALL UNIFIED CABLE				
37	INSTALL POLE MOUNTED EQUIPMENT CABINET				
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA				
39	INSTALL OMNI-DIRECTIONAL ANTENNA				
40	INSTALL RADIO TRANSCEIVER				
41	INSTALL SYSTEM LOOP				
42	INSTALL SYSTEM LOOP AMPLIFIER				
43	INSTALL SYSTEM LOOP LEAD-IN CABLE				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0319.dgn

2/20/2008
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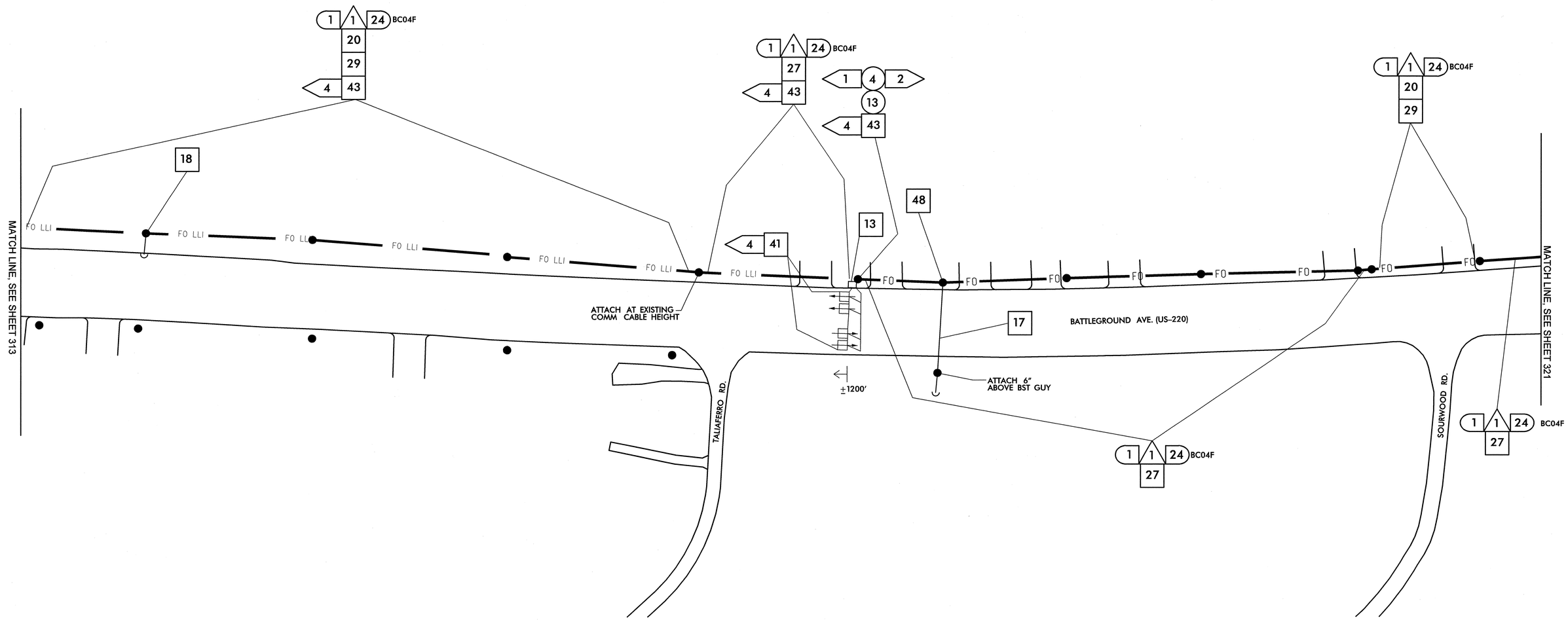
PROJECT REFERENCE NO.	SHEET NO.
U-4711	320



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
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19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
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19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
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28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
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48	BOND MESSENGER CABLE TO POLE GROUND
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53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
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56	INSTALL MICROWAVE VEHICLE DETECTOR
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0320.dgn

2/20/2008
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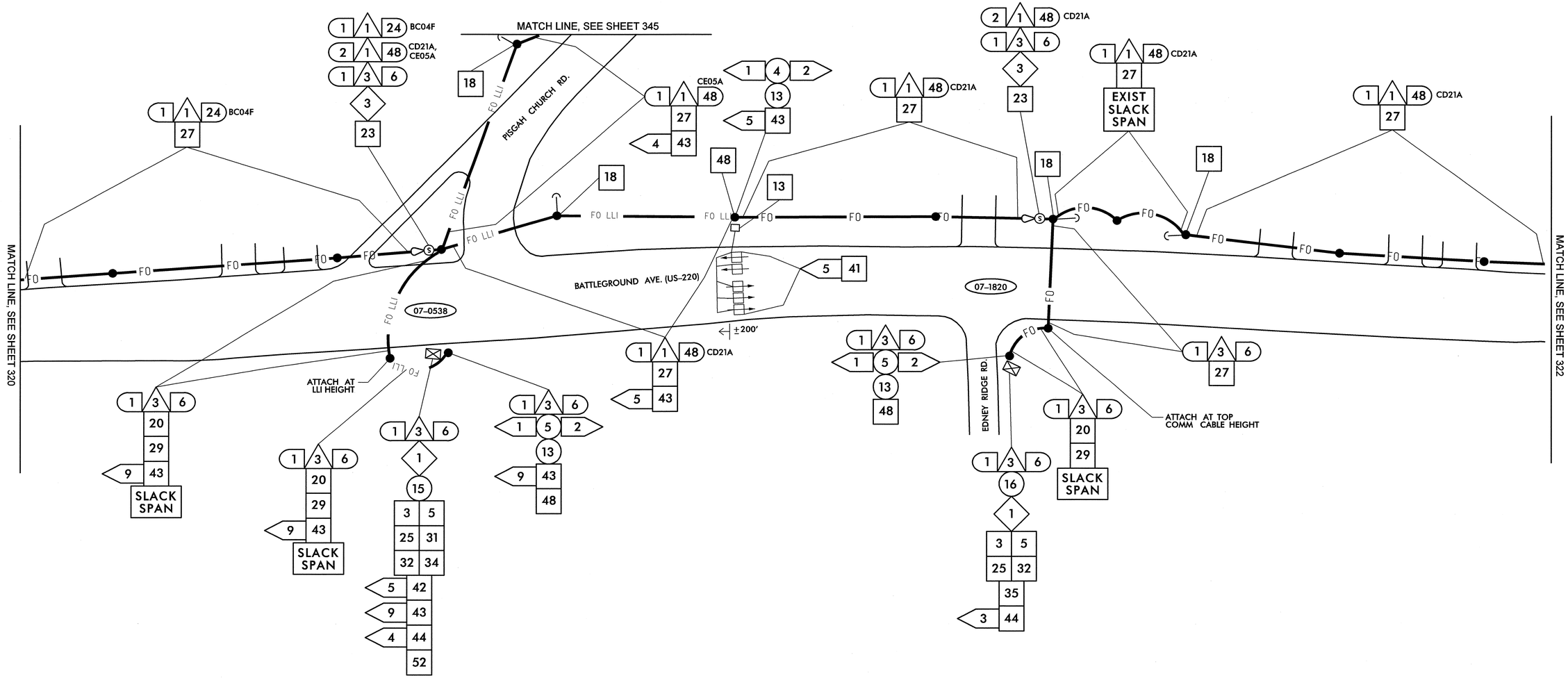

1	INSTALL SMFO CABLE
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6	REUSE GDOT SMFO CABLE
1	TRENCH
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6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
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1	INSTALL CABINET FOUNDATION
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3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
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9	INSTALL CCTV METAL POLE AND FOUNDATION
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
DIVISION OF HIGHWAYS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/29/08 DATE

CADD Filename: ...\Sht0321m.dgn

2/29/2008
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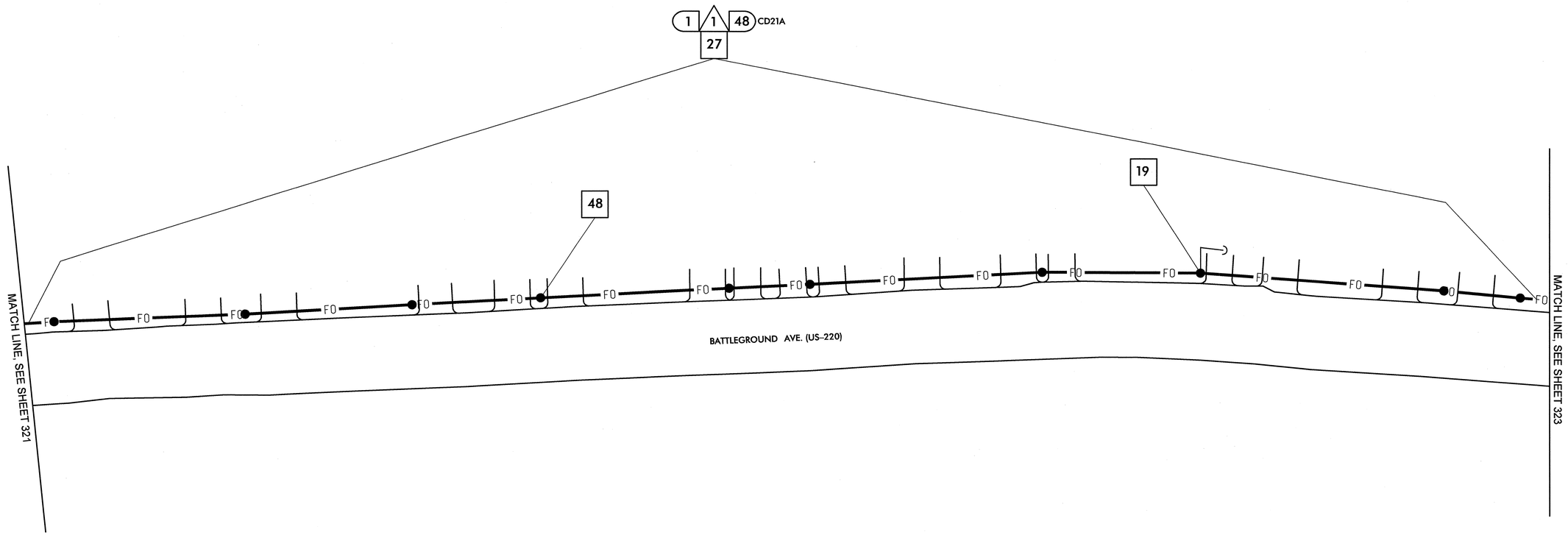
PROJECT REFERENCE NO.	SHEET NO.
U-4711	322



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47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0322.dgn

2/20/2008
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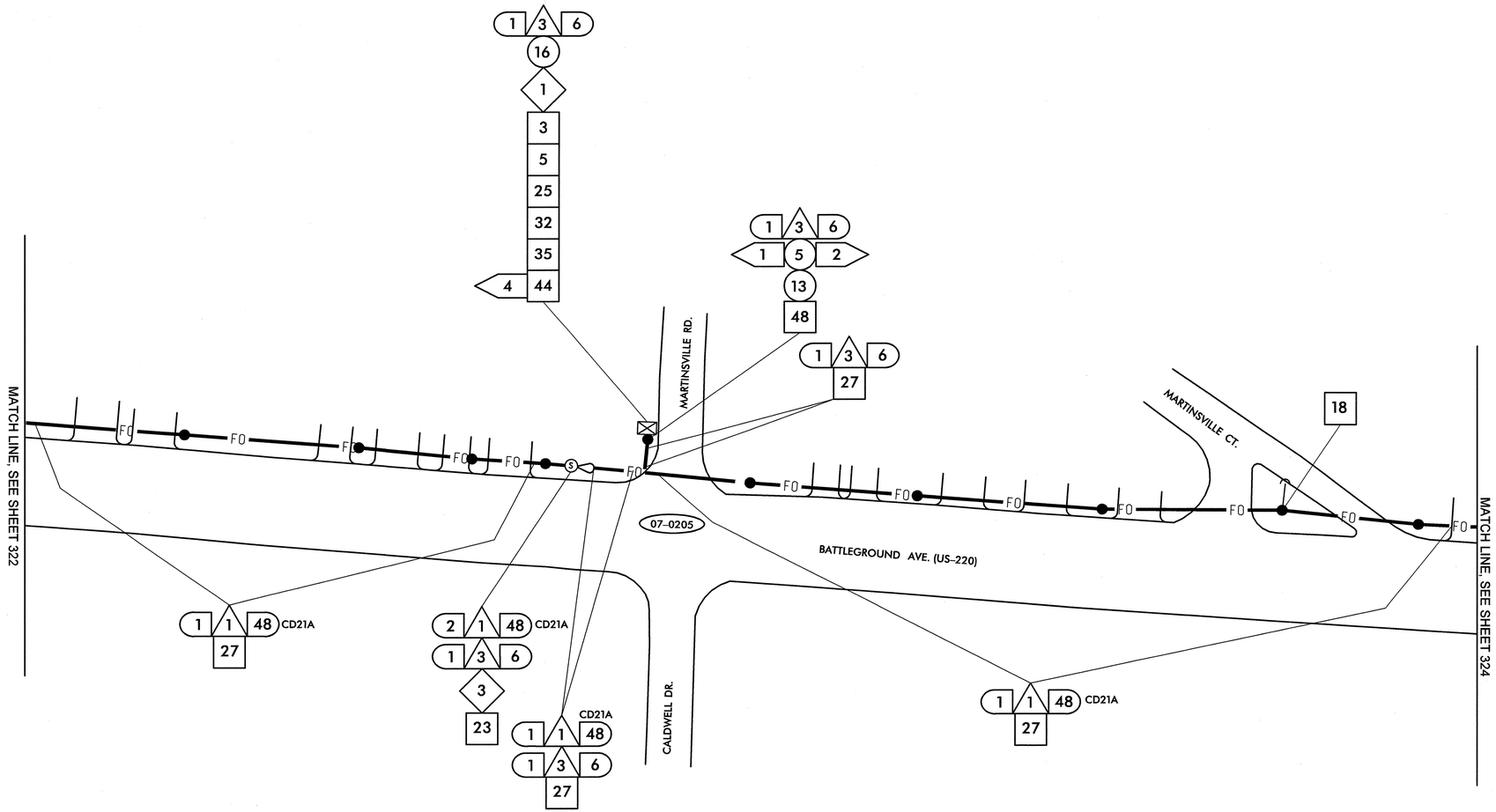
PROJECT REFERENCE NO.	SHEET NO.
U-4711	323



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
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PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE — DATE 2/20/08
CADD Filenames ...\Sht0323.dgn

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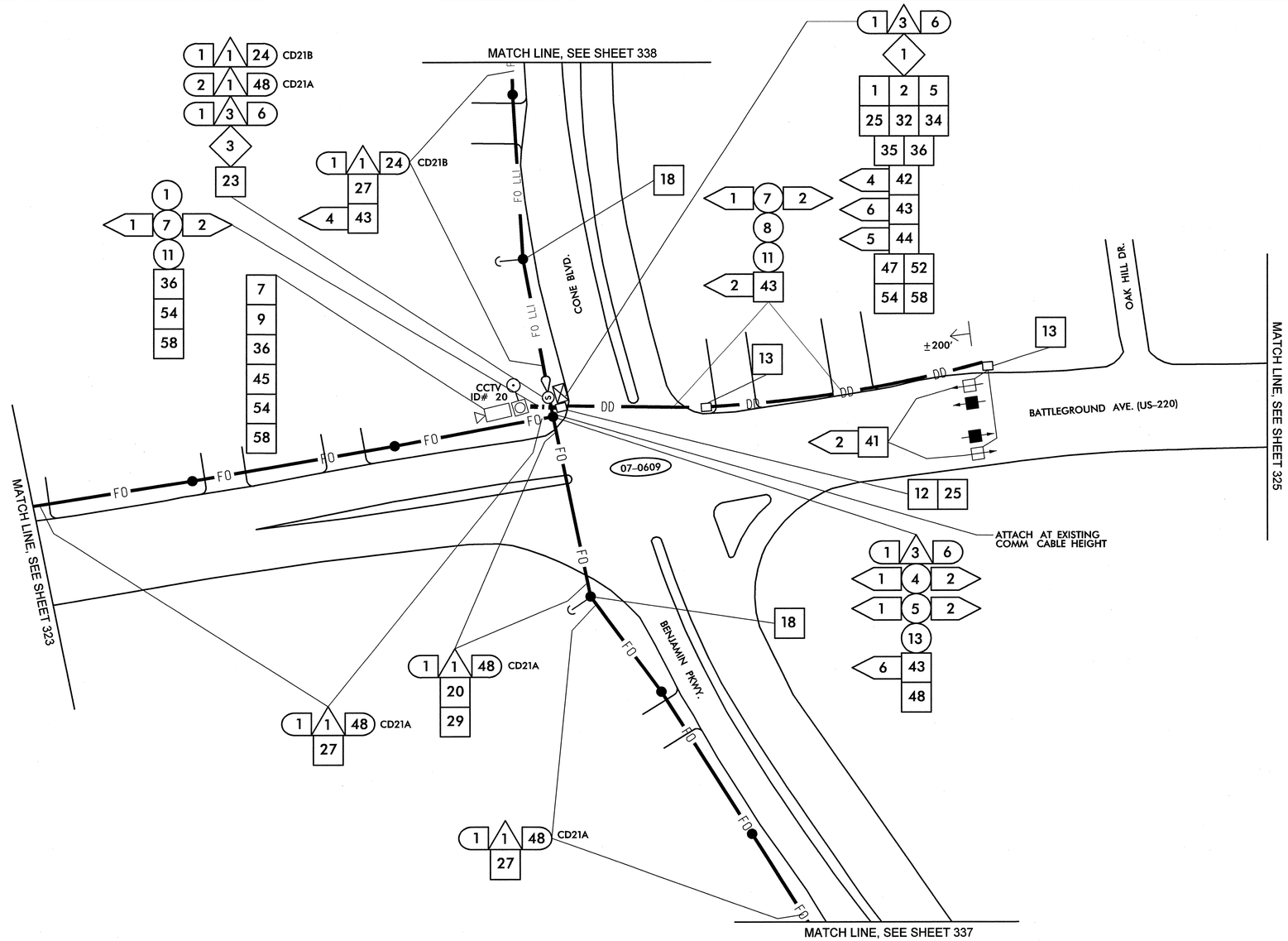
PROJECT REFERENCE NO.	SHEET NO.
U-4711	324



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2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
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7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
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2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
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7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
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47	INSTALL CODEC
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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Public Engineering and Safety Services Bureau
Intelligent Transportation Systems
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename ...\Sht0324.dgn

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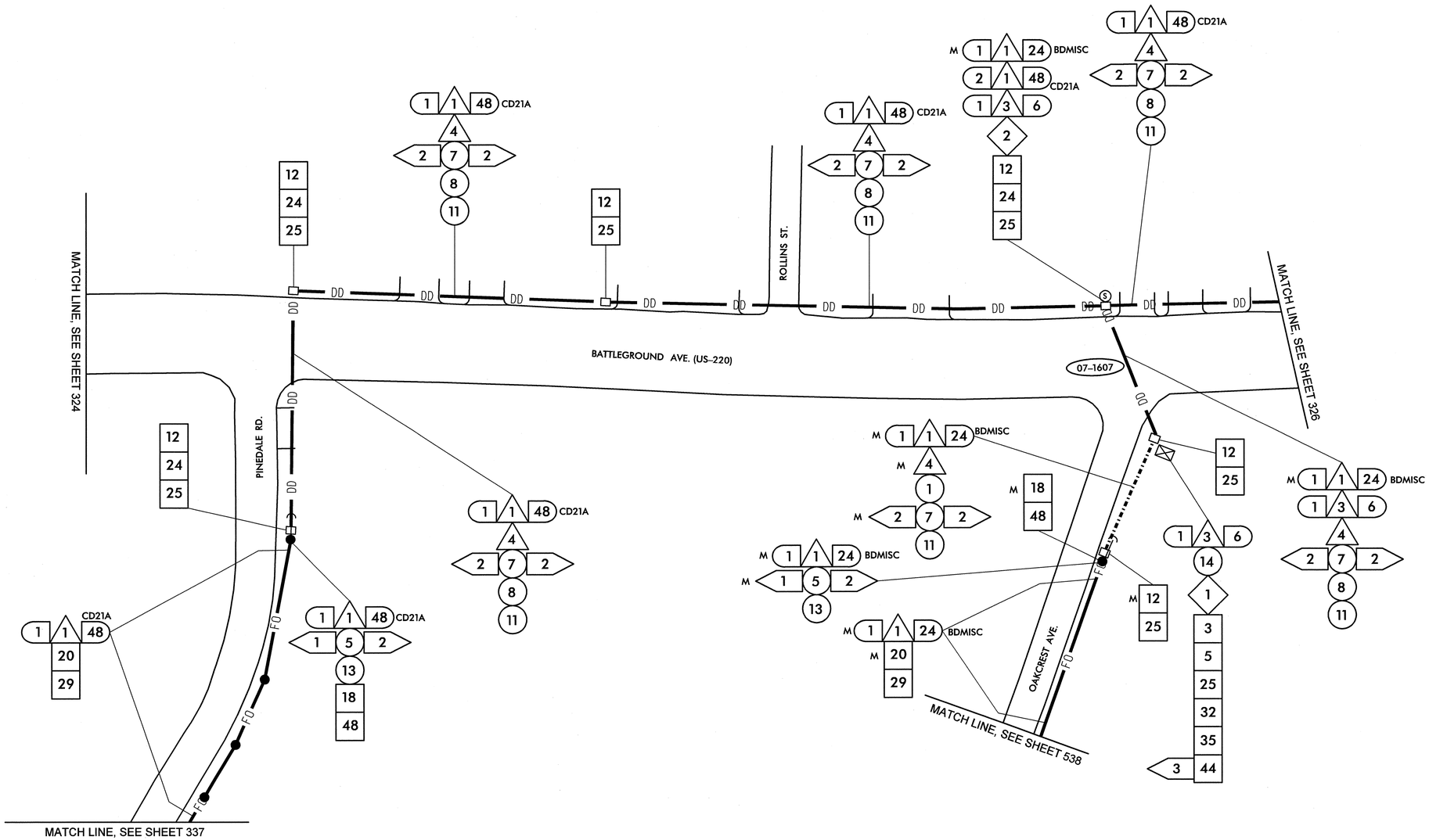
PROJECT REFERENCE NO.	SHEET NO.
U-4711	325



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE

26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
29	LASH CABLE(S) TO NEW MESSENGER CABLE	47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
30	INSTALL NEW ELECTRICAL SERVICE	48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
31	MODIFY EXISTING ELECTRICAL SERVICE	49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
32	INSTALL NEW CONTROLLER	50	INSTALL ANTENNA CABLE		
33	INSTALL EXISTING CABLE IN NEW CABINET	51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0325m.dgn

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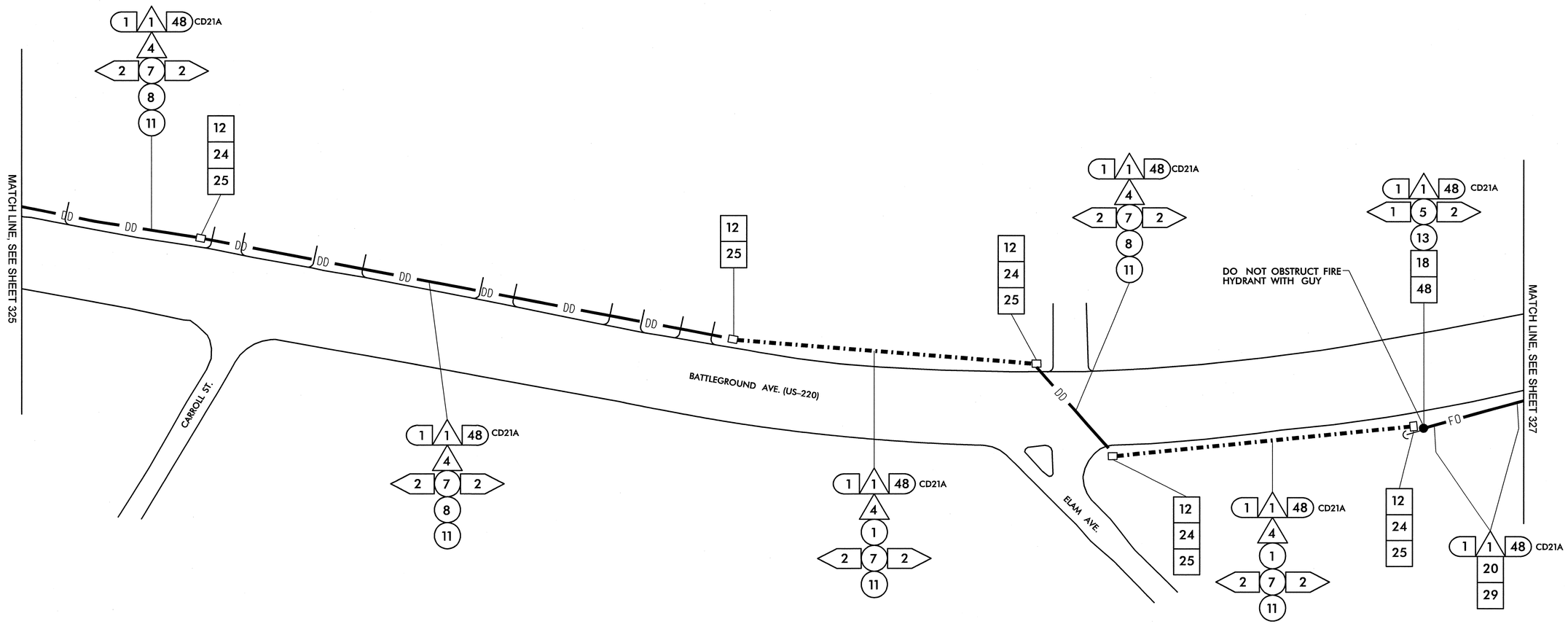
PROJECT REFERENCE NO.	SHEET NO.
U-4711	326



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CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
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SEAL
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SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0326.dgn

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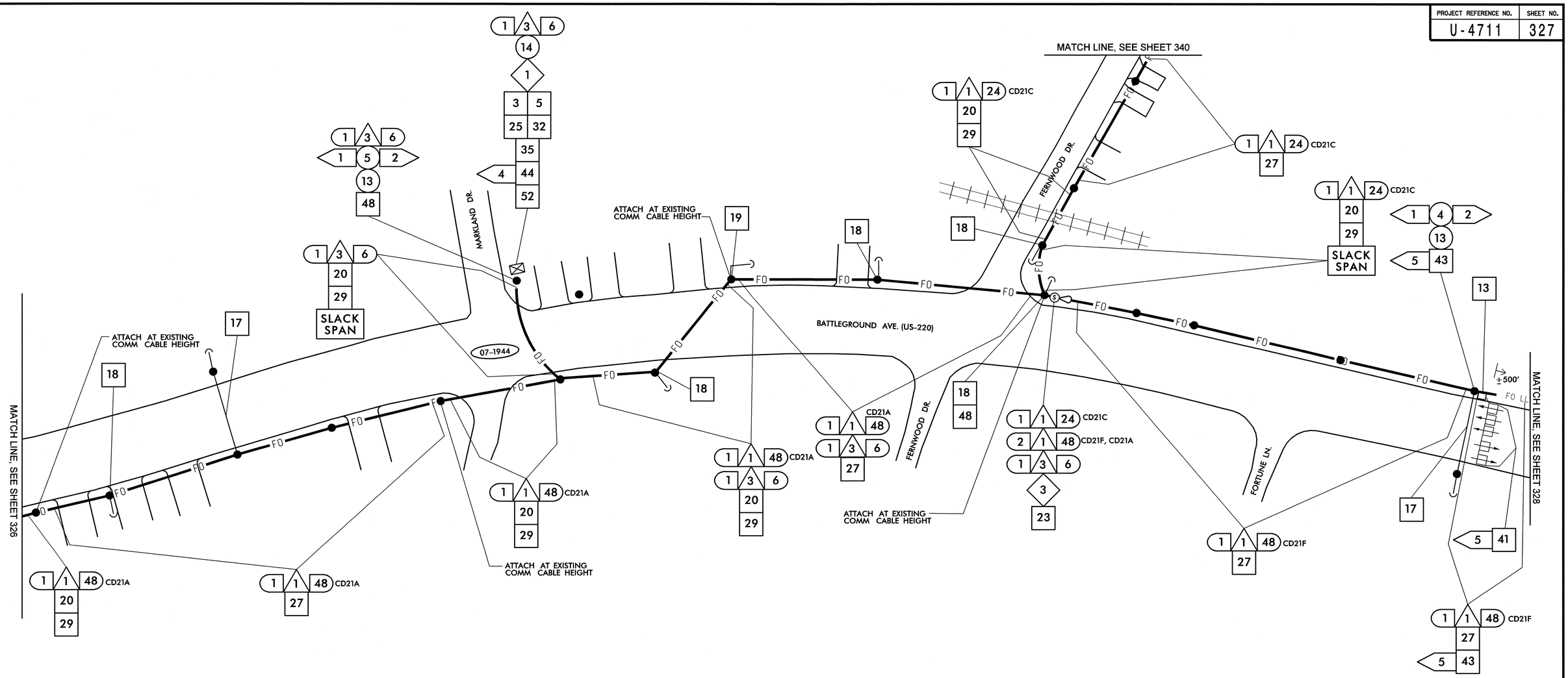
PROJECT REFERENCE NO.	SHEET NO.
U-4711	327



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0327.dgn

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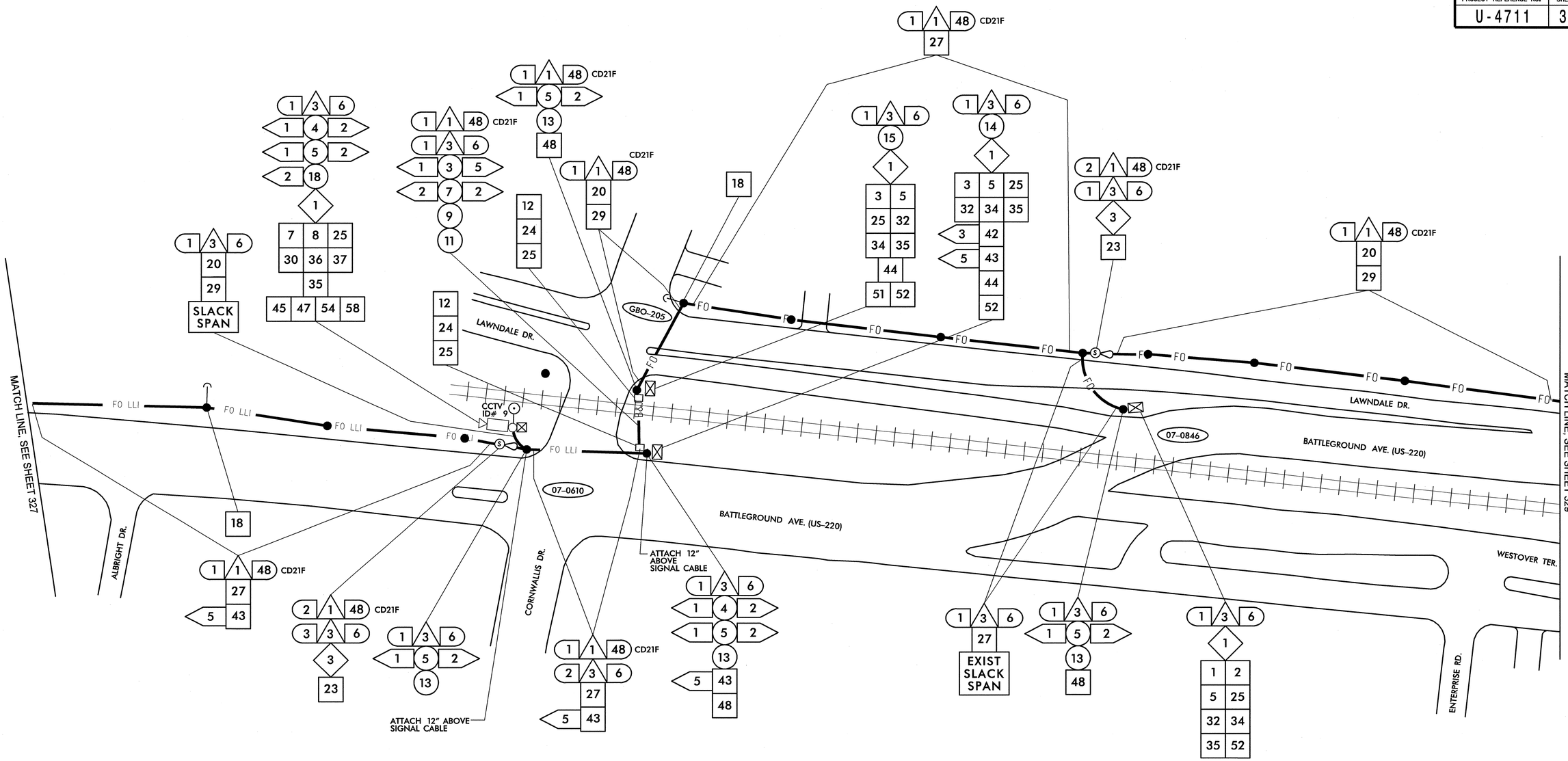
PROJECT REFERENCE NO.	SHEET NO.
U-4711	328



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET

6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
24	INSTALL DELINEATOR MARKER		
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0328.dgn

2/20/2008
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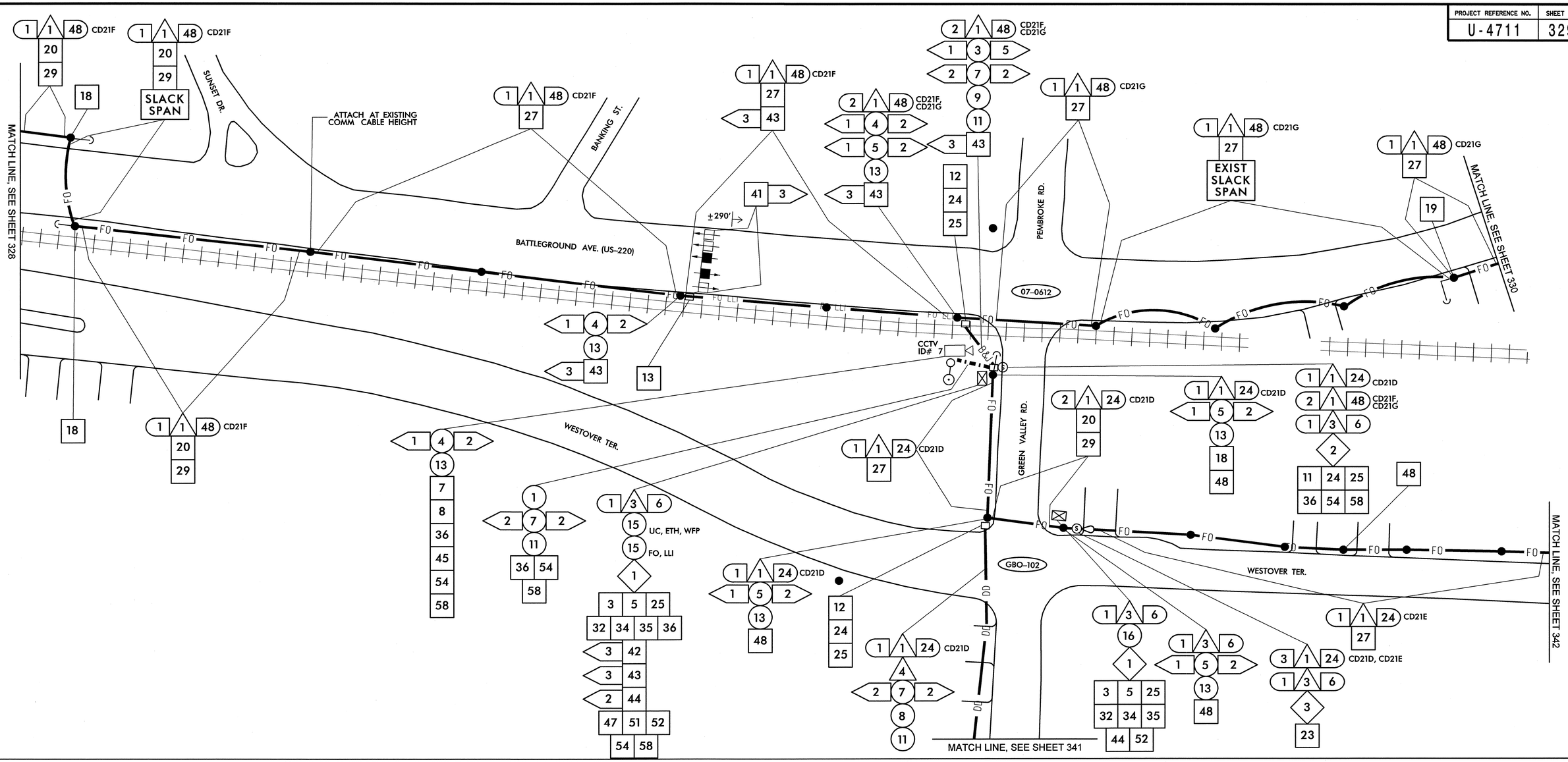
PROJECT REFERENCE NO.	SHEET NO.
U-4711	329



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58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

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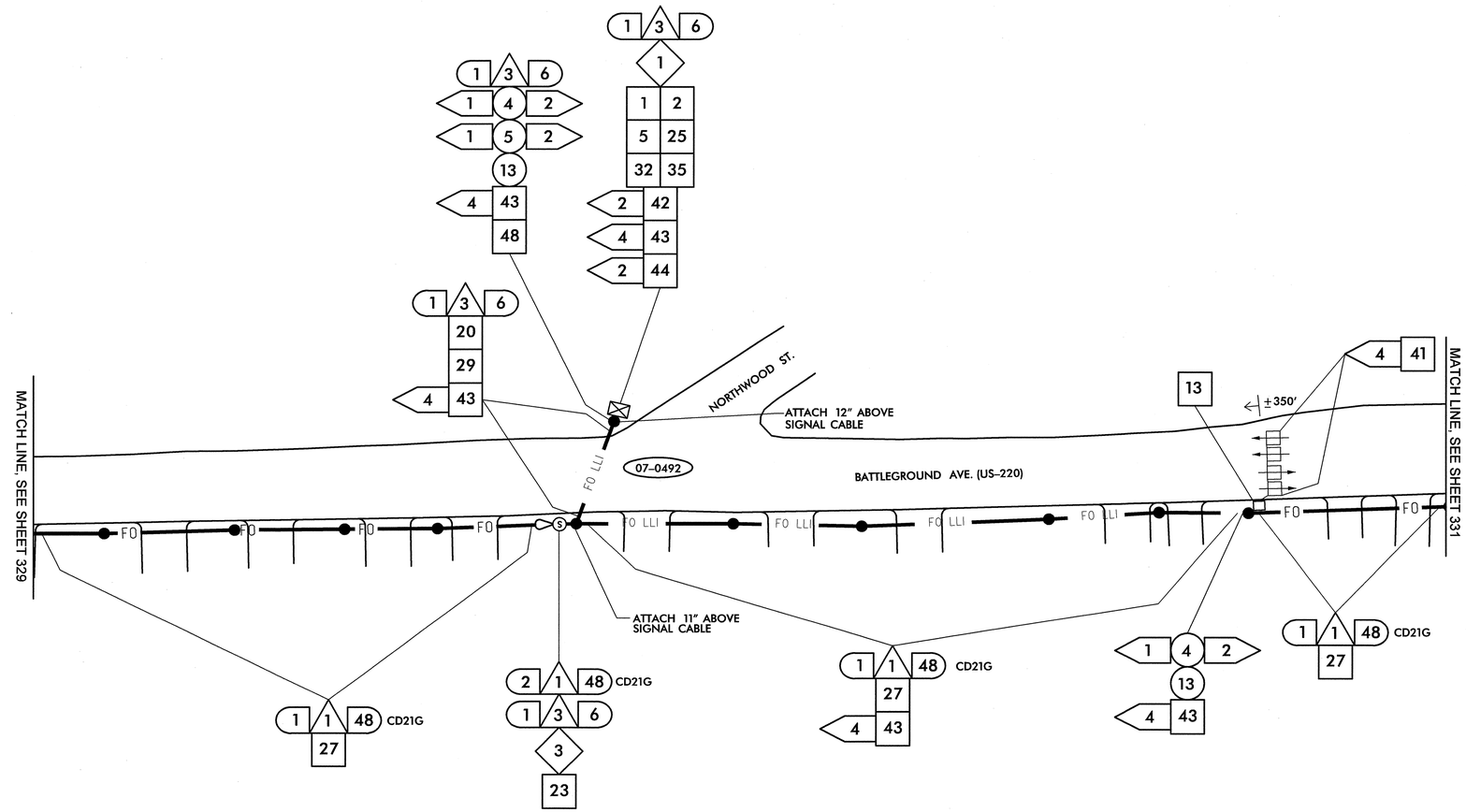
PROJECT REFERENCE NO.	SHEET NO.
U-4711	330



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2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY
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4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY
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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
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CADD Filename: ...\Sht0330.dgn

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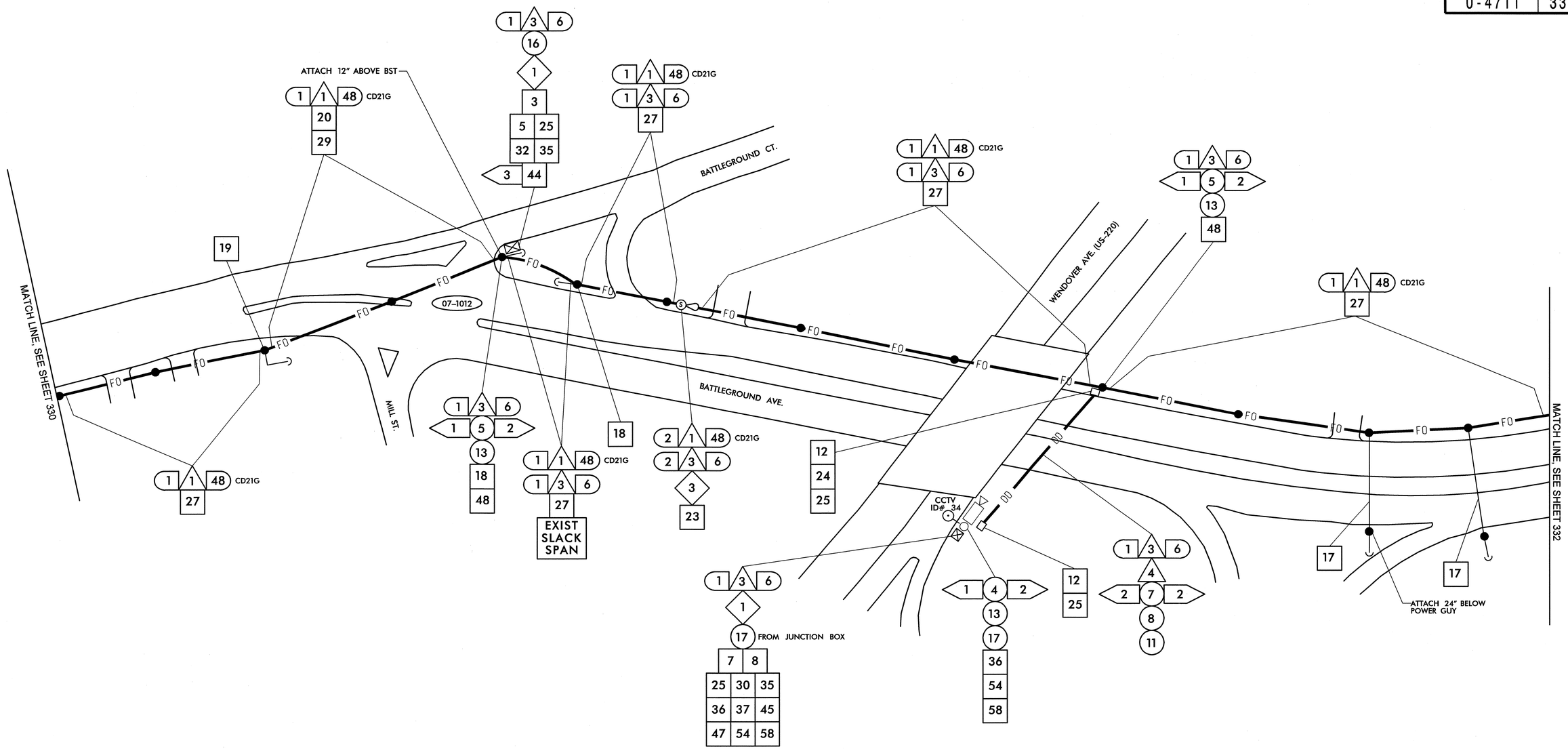
PROJECT REFERENCE NO.	SHEET NO.
U-4711	331



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15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht033I.dgn

2/20/2008
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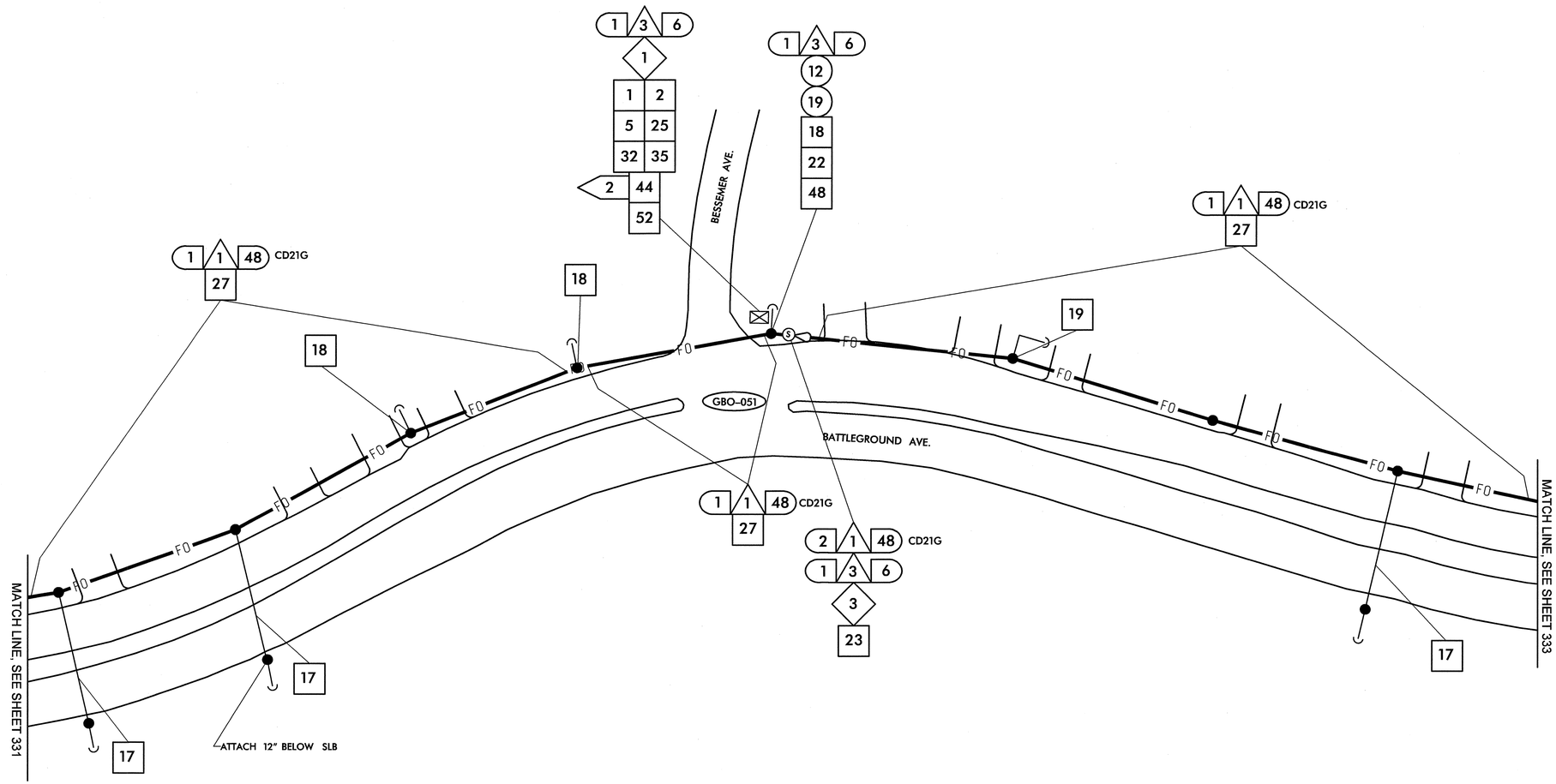
PROJECT REFERENCE NO.	SHEET NO.
U-4711	332



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
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19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

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(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/22/08

CADD Filename: ...\Sht0332.dgn

2/20/2008
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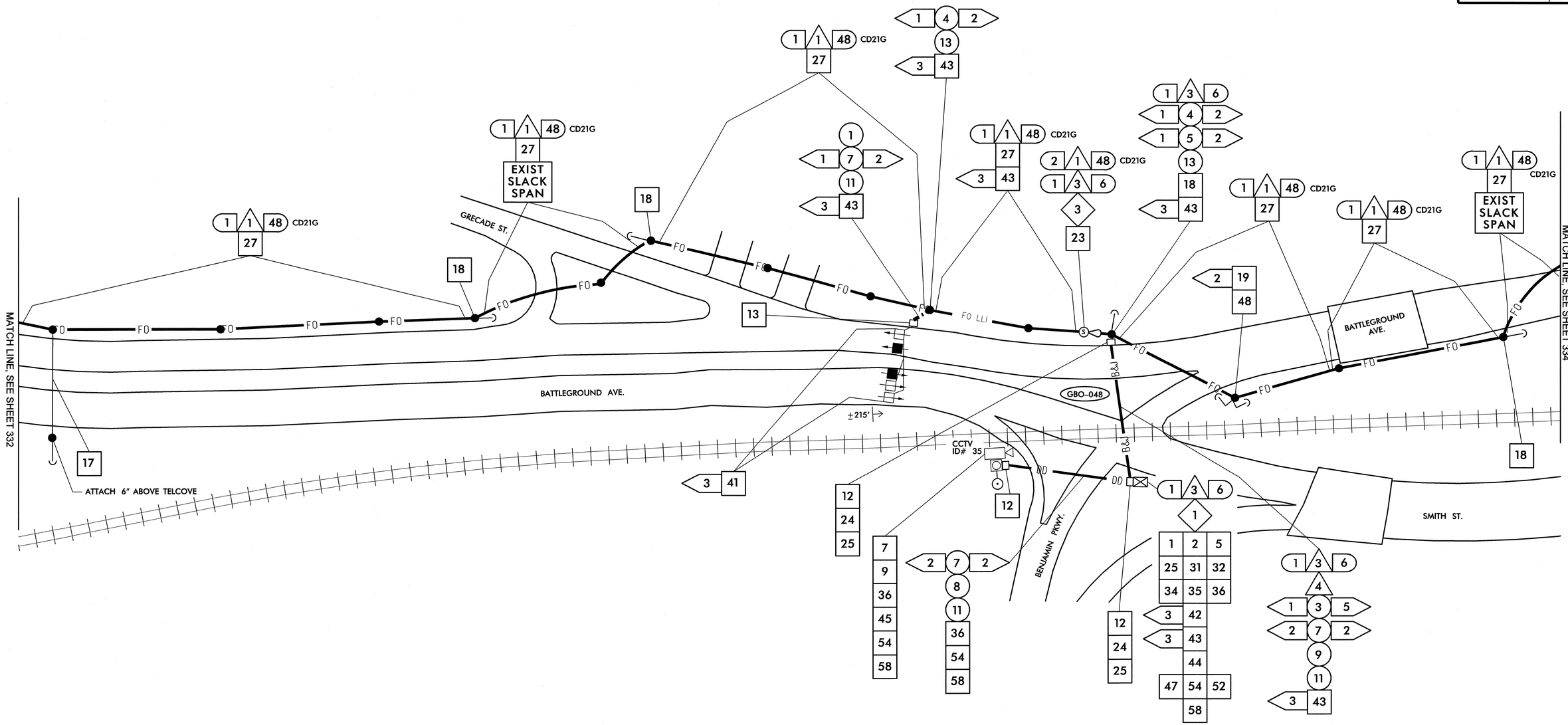
PROJECT REFERENCE NO.	SHEET NO.
U-4711	333



1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0333.dgn

2/20/2008
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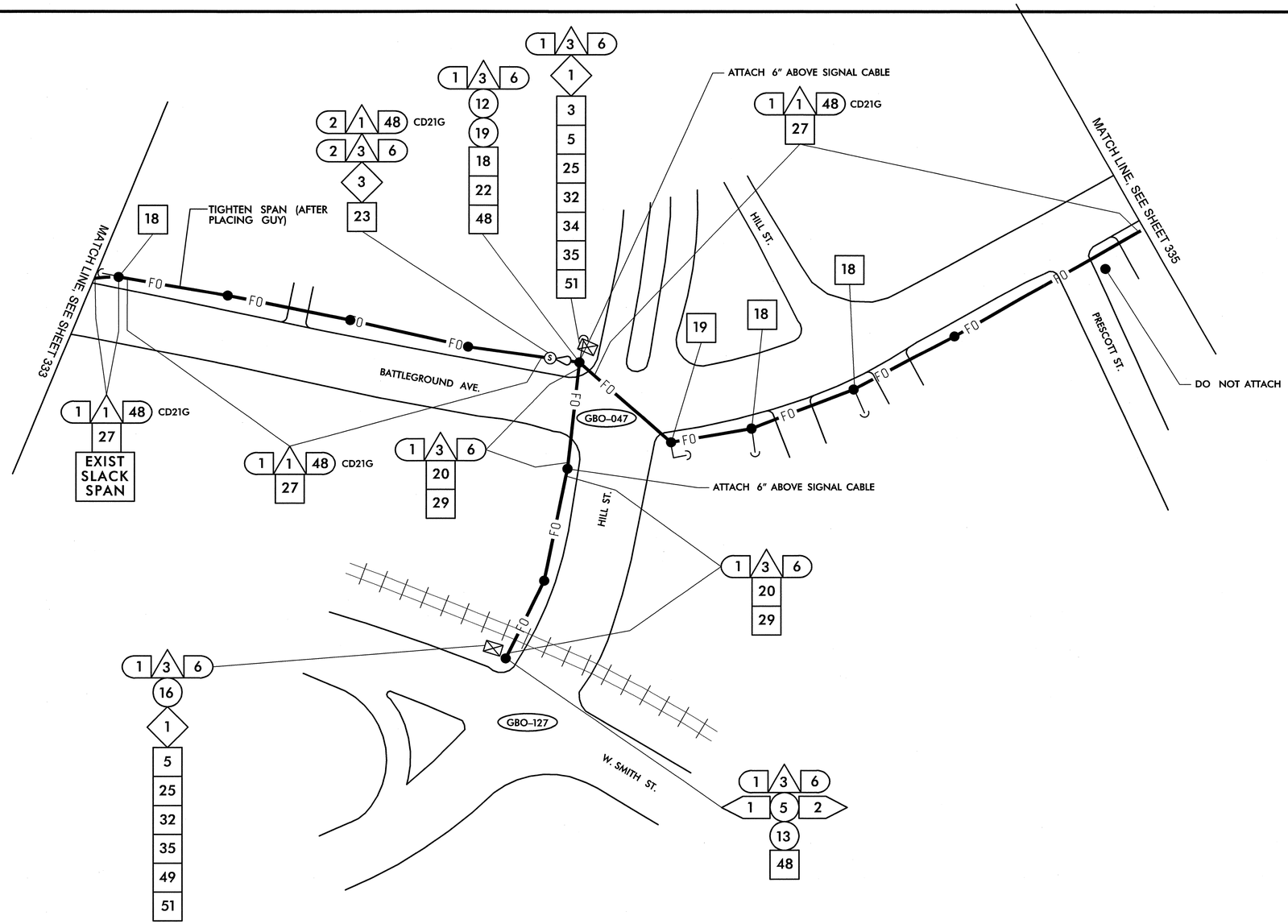
PROJECT REFERENCE NO.	SHEET NO.
U-4711	334



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
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5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
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22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
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27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
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46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
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51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
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53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Integrated Mobility Division
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

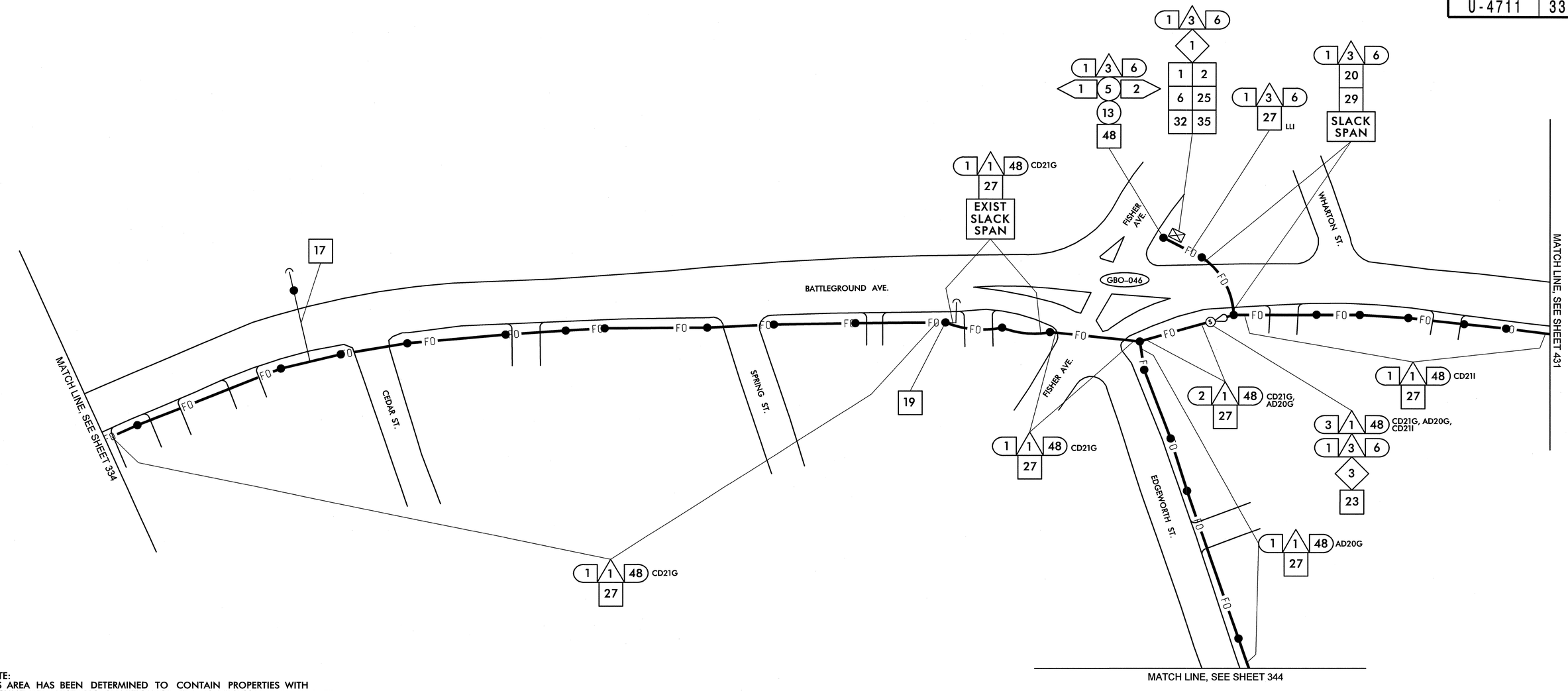
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0334.dgn

2/20/2008
N:\systems\projects\DIV42\2020 (g-bore mish)\SH0334.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	335



NOTE:
THIS AREA HAS BEEN DETERMINED TO CONTAIN PROPERTIES WITH DOCUMENTED HISTORIC SIGNIFICANCE. IF IT IS NECESSARY TO DEVIATE FROM THESE PLANS IN THIS AREA, PLEASE ALERT THE ENGINEER TO CONTACT PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH–HISTORIC ARCHITECTURE GROUP OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FOR AN EFFECTS DETERMINATION BEFORE PROCEEDING.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
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18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Department of Transportation
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filenames ...\Sht0335.dgn

2/20/2008
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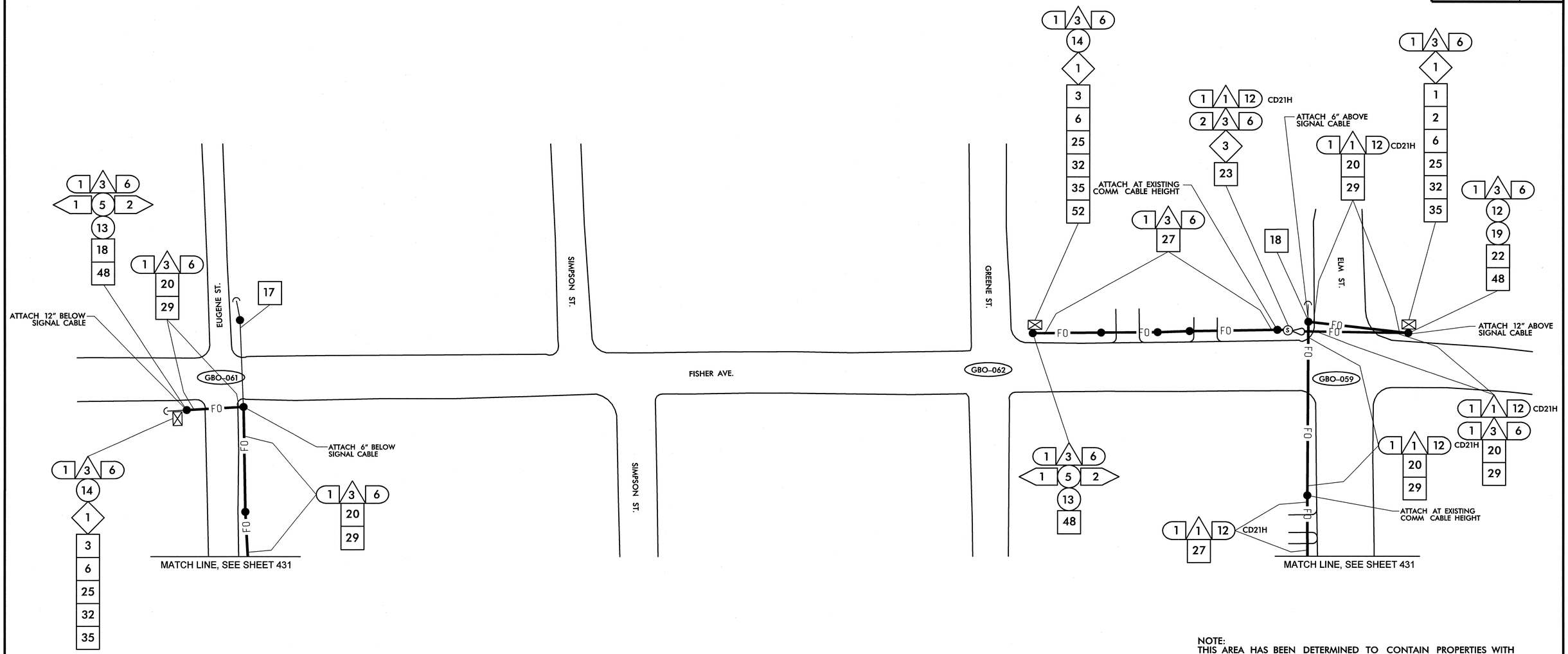
PROJECT REFERENCE NO.	SHEET NO.
U-4711	336



NOTE:
THIS AREA HAS BEEN DETERMINED TO CONTAIN PROPERTIES WITH DOCUMENTED HISTORIC SIGNIFICANCE. IF IT IS NECESSARY TO DEVIATE FROM THESE PLANS IN THIS AREA, PLEASE ALERT THE ENGINEER TO CONTACT PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH-HISTORIC ARCHITECTURE GROUP OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FOR AN EFFECTS DETERMINATION BEFORE PROCEEDING.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
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18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
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29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
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32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
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48. BOND MESSENGER CABLE TO POLE GROUND
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57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename ...\Sht0336.dgn

2/20/2008
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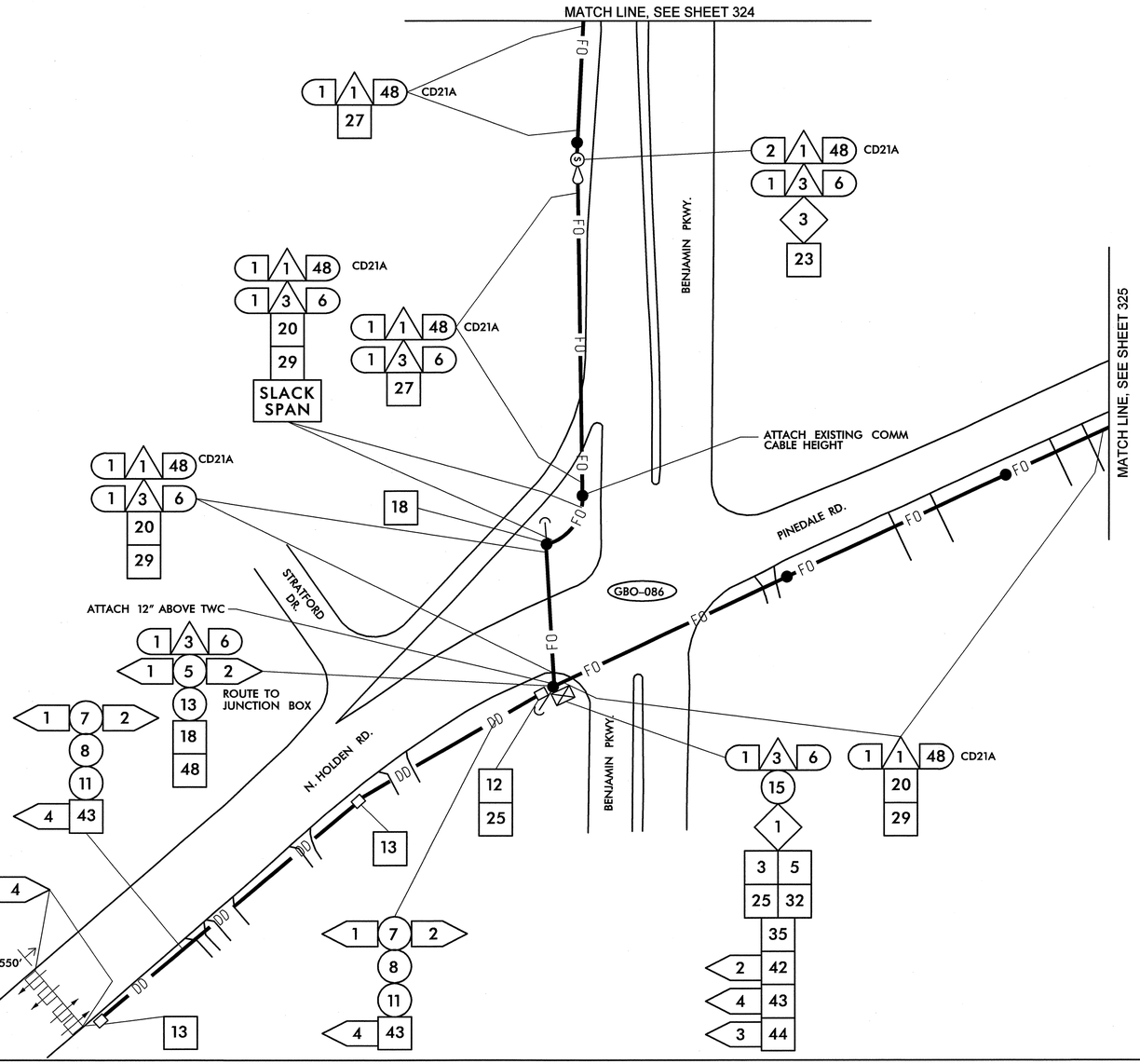
PROJECT REFERENCE NO.	SHEET NO.
U-4711	337



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety System Branch
Transportation Management Unit
Division of Highways
State of North Carolina Department of Transportation
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0337.dgn

2/20/2008
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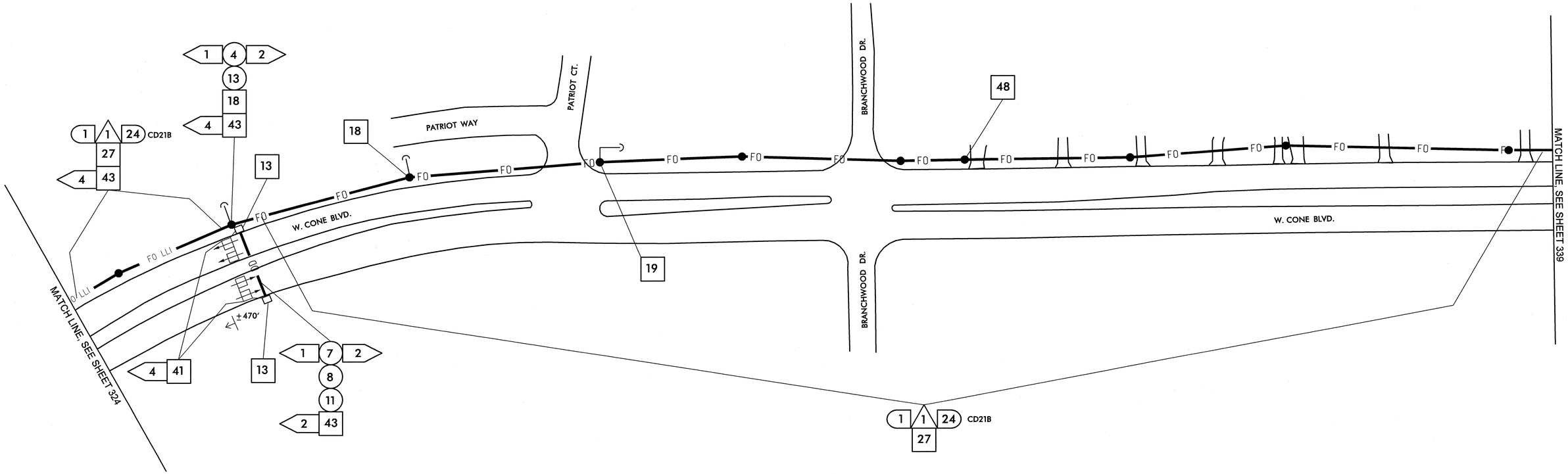
PROJECT REFERENCE NO.	SHEET NO.
U-4711	338



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE

26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
29	LASH CABLE(S) TO NEW MESSENGER CABLE	47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
30	INSTALL NEW ELECTRICAL SERVICE	48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
31	MODIFY EXISTING ELECTRICAL SERVICE	49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
32	INSTALL NEW CONTROLLER	50	INSTALL ANTENNA CABLE		
33	INSTALL EXISTING CABLE IN NEW CABINET	51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
34	INSTALL GENERATOR POWER INLET BOX	52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH				
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37	INSTALL POLE MOUNTED EQUIPMENT CABINET				
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA				
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40	INSTALL RADIO TRANSCEIVER				
41	INSTALL SYSTEM LOOP				
42	INSTALL SYSTEM LOOP AMPLIFIER				
43	INSTALL SYSTEM LOOP LEAD-IN CABLE				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
Transportation Management Unit
DIVISION OF HIGHWAYS
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

N
SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE

CADD Filename ...\Sht0338.dgn

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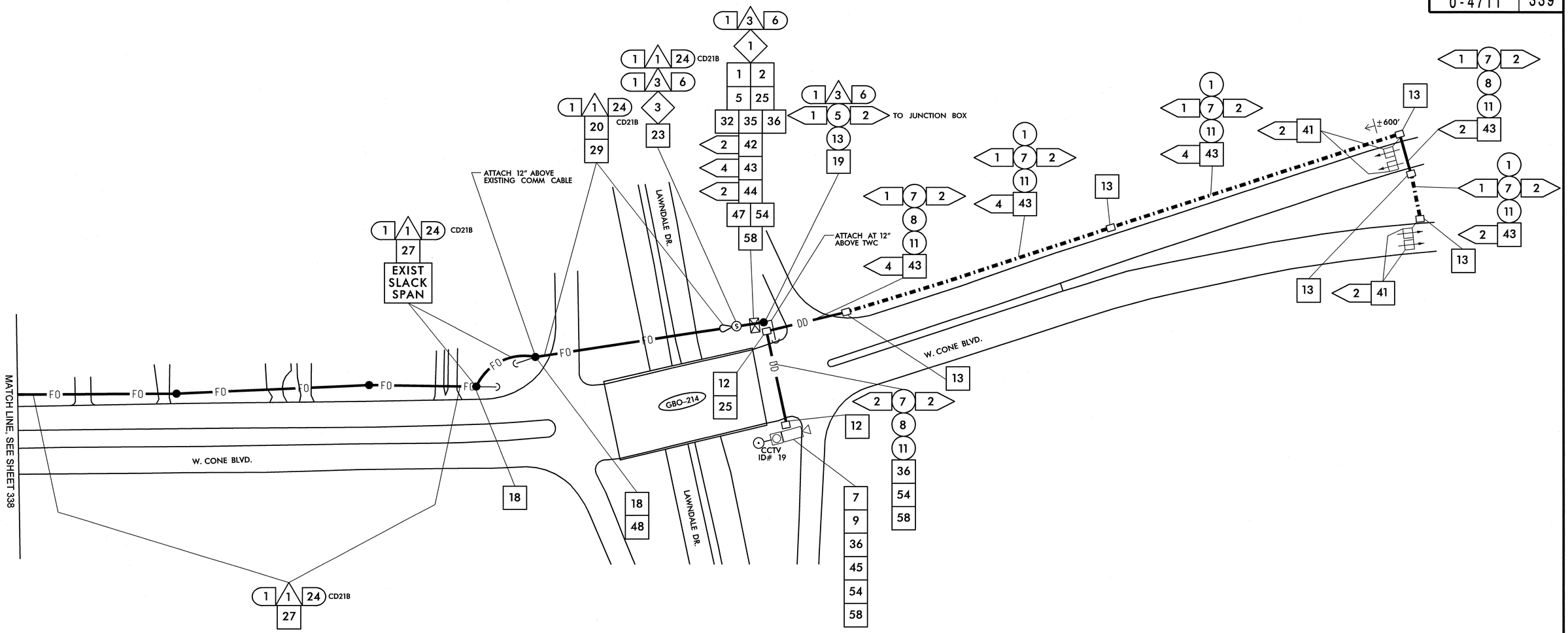
PROJECT REFERENCE NO.	SHEET NO.
U-4711	339



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
DIVISION OF HIGHWAYS, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

N

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0339.dgn

2/20/2008
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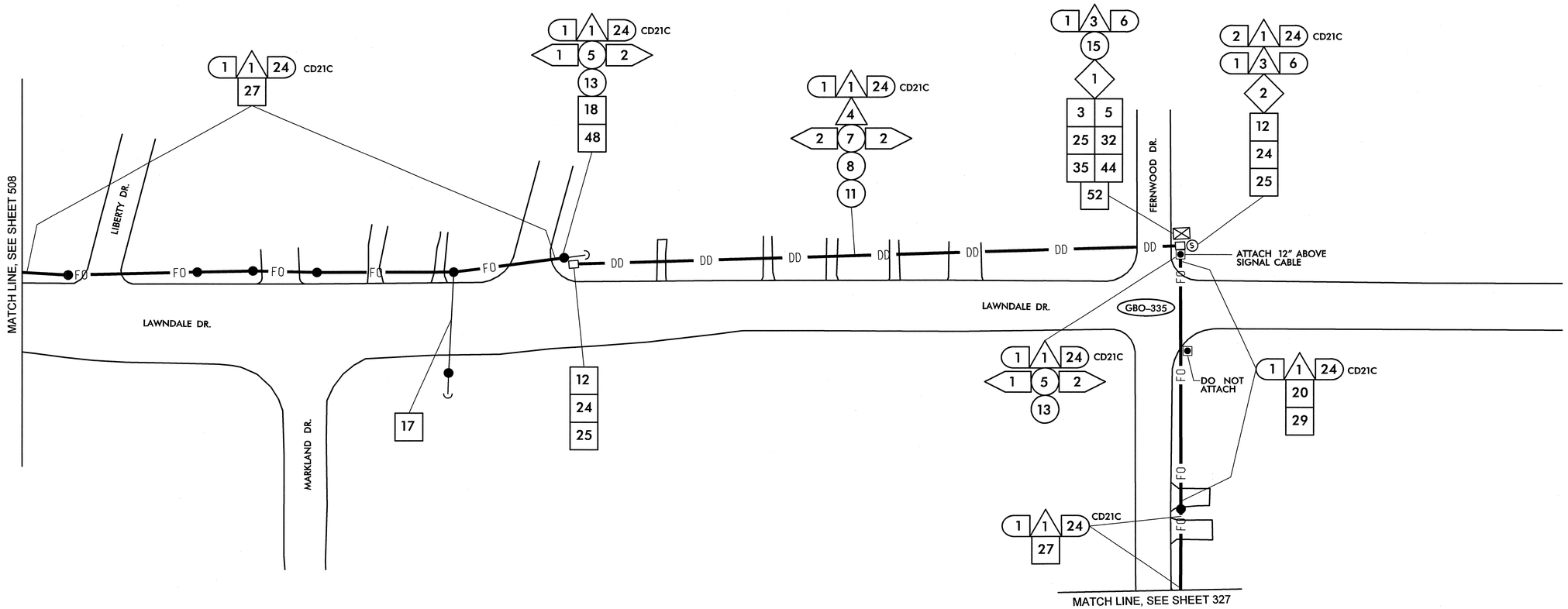
PROJECT REFERENCE NO.	SHEET NO.
U-4711	340



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
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12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
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(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Management Unit
DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0340.dgn

2/20/2008
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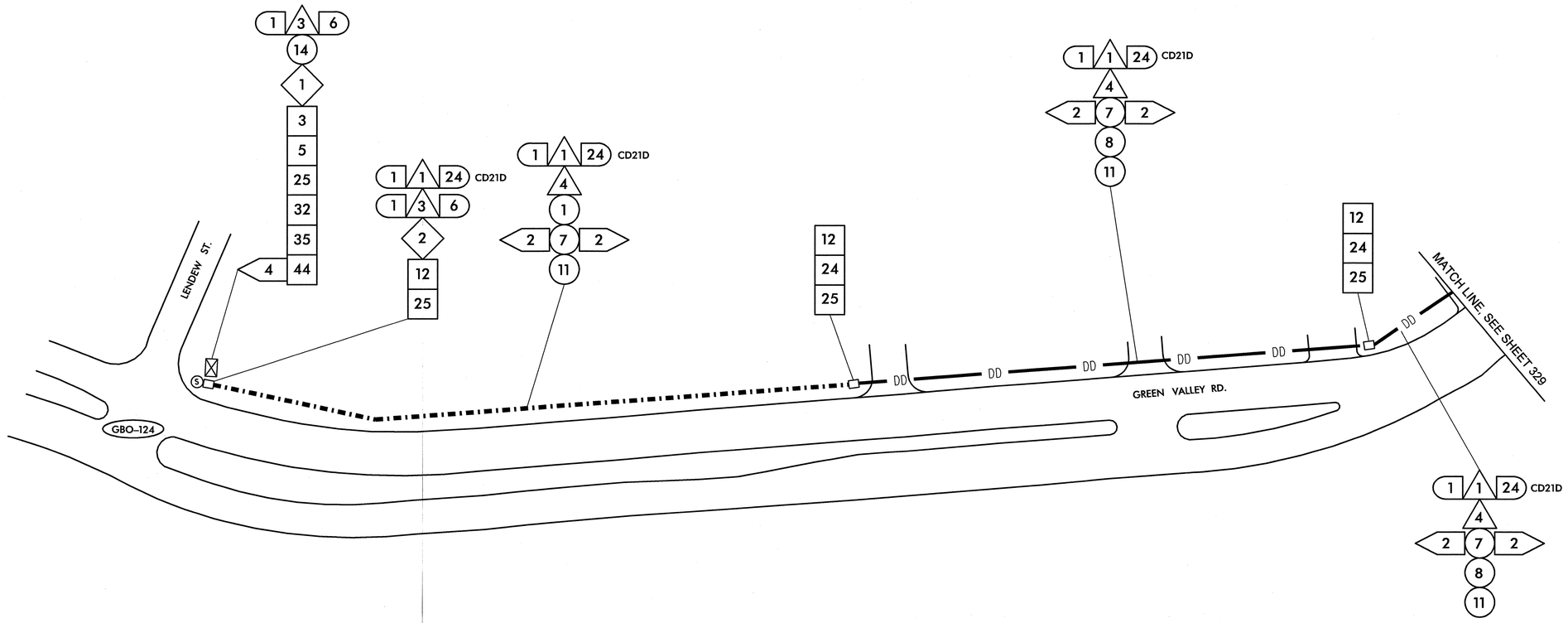
PROJECT REFERENCE NO.	SHEET NO.
U-4711	341



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE

26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
29	LASH CABLE(S) TO NEW MESSENGER CABLE	47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
30	INSTALL NEW ELECTRICAL SERVICE	48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
31	MODIFY EXISTING ELECTRICAL SERVICE	49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
32	INSTALL NEW CONTROLLER	50	INSTALL ANTENNA CABLE		
33	INSTALL EXISTING CABLE IN NEW CABINET	51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
34	INSTALL GENERATOR POWER INLET BOX	52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH				
36	INSTALL UNIFIED CABLE				
37	INSTALL POLE MOUNTED EQUIPMENT CABINET				
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA				
39	INSTALL OMNI-DIRECTIONAL ANTENNA				
40	INSTALL RADIO TRANSCEIVER				
41	INSTALL SYSTEM LOOP				
42	INSTALL SYSTEM LOOP AMPLIFIER				
43	INSTALL SYSTEM LOOP LEAD-IN CABLE				

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

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2/20/2008
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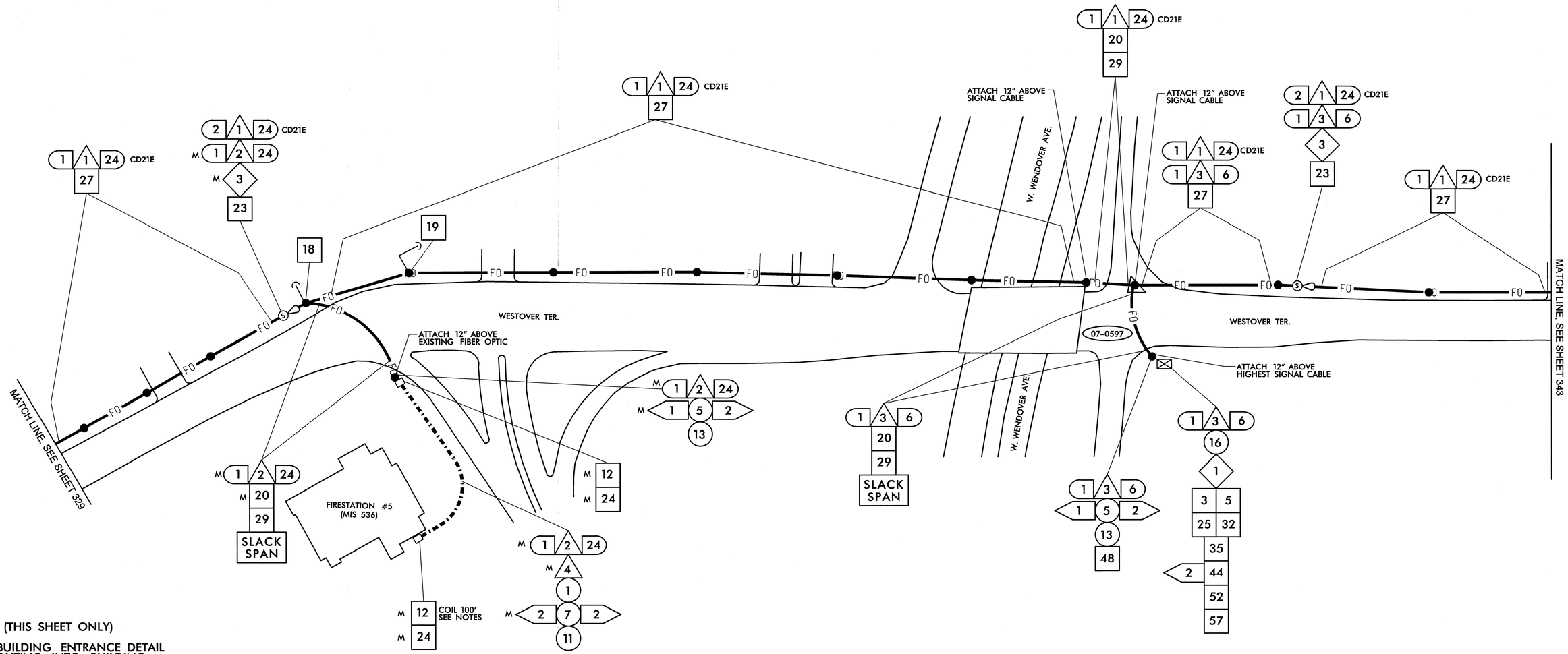
PROJECT REFERENCE NO.	SHEET NO.
U-4711	342



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
9. INSTALL CCTV METAL POLE AND FOUNDATION
10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
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47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
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58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
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PLANS PREPARED IN THE OFFICE OF:

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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

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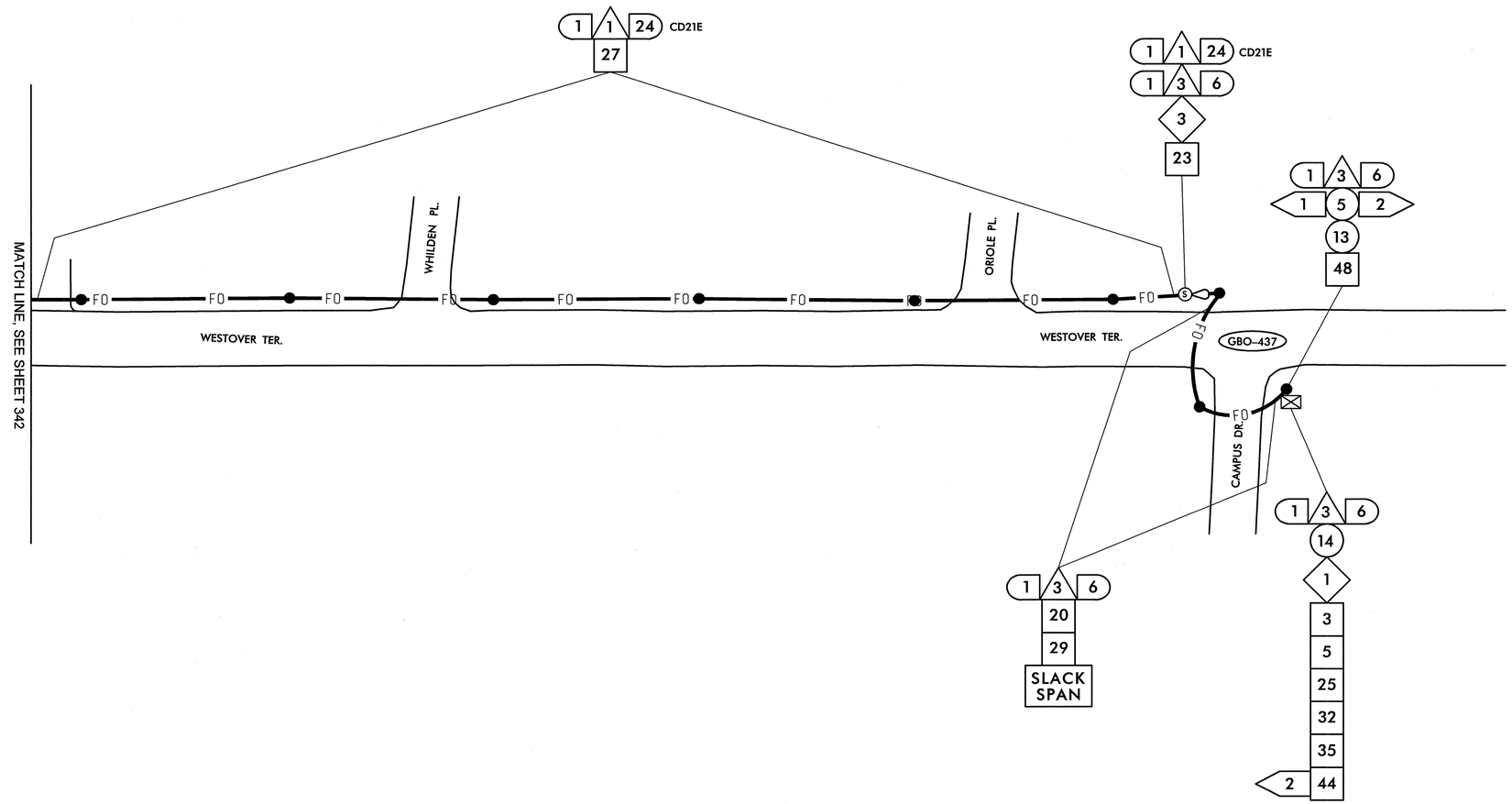
PROJECT REFERENCE NO.	SHEET NO.
U-4711	343



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3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
6. INSTALL NEW 336S CABINET
7. INSTALL CCTV CAMERA ASSEMBLY
8. INSTALL CCTV CAMERA WOOD POLE
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10. INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11. INSTALL SPECIAL OVERSIZED JUNCTION BOX
12. INSTALL OVERSIZED JUNCTION BOX
13. INSTALL STANDARD JUNCTION BOX
14. REMOVE EXISTING JUNCTION BOX
15. INSTALL WOOD POLE
16. REMOVE EXISTING WOOD POLE
17. INSTALL AERIAL GUY ASSEMBLY
18. INSTALL STANDARD GUY ASSEMBLY
19. INSTALL SIDEWALK GUY ASSEMBLY
20. INSTALL MESSENGER CABLE
21. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22. REMOVE EXISTING COMMUNICATIONS CABLE
23. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24. INSTALL DELINEATOR MARKER
25. STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26. STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27. LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28. LASH CABLE(S) TO EXISTING MESSENGER CABLE
29. LASH CABLE(S) TO NEW MESSENGER CABLE
30. INSTALL NEW ELECTRICAL SERVICE
31. MODIFY EXISTING ELECTRICAL SERVICE
32. INSTALL NEW CONTROLLER
33. INSTALL EXISTING CABLE IN NEW CABINET
34. INSTALL GENERATOR POWER INLET BOX
35. INSTALL LOCAL GIGABIT ETHERNET SWITCH
36. INSTALL UNIFIED CABLE
37. INSTALL POLE MOUNTED EQUIPMENT CABINET
38. INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39. INSTALL OMNI-DIRECTIONAL ANTENNA
40. INSTALL RADIO TRANSCEIVER
41. INSTALL SYSTEM LOOP
42. INSTALL SYSTEM LOOP AMPLIFIER
43. INSTALL SYSTEM LOOP LEAD-IN CABLE
44. INSTALL LOCAL LOOP AMPLIFIER
45. INSTALL CITY WI-FI ANTENNA
46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Systems
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0343.dgn

2/20/2008
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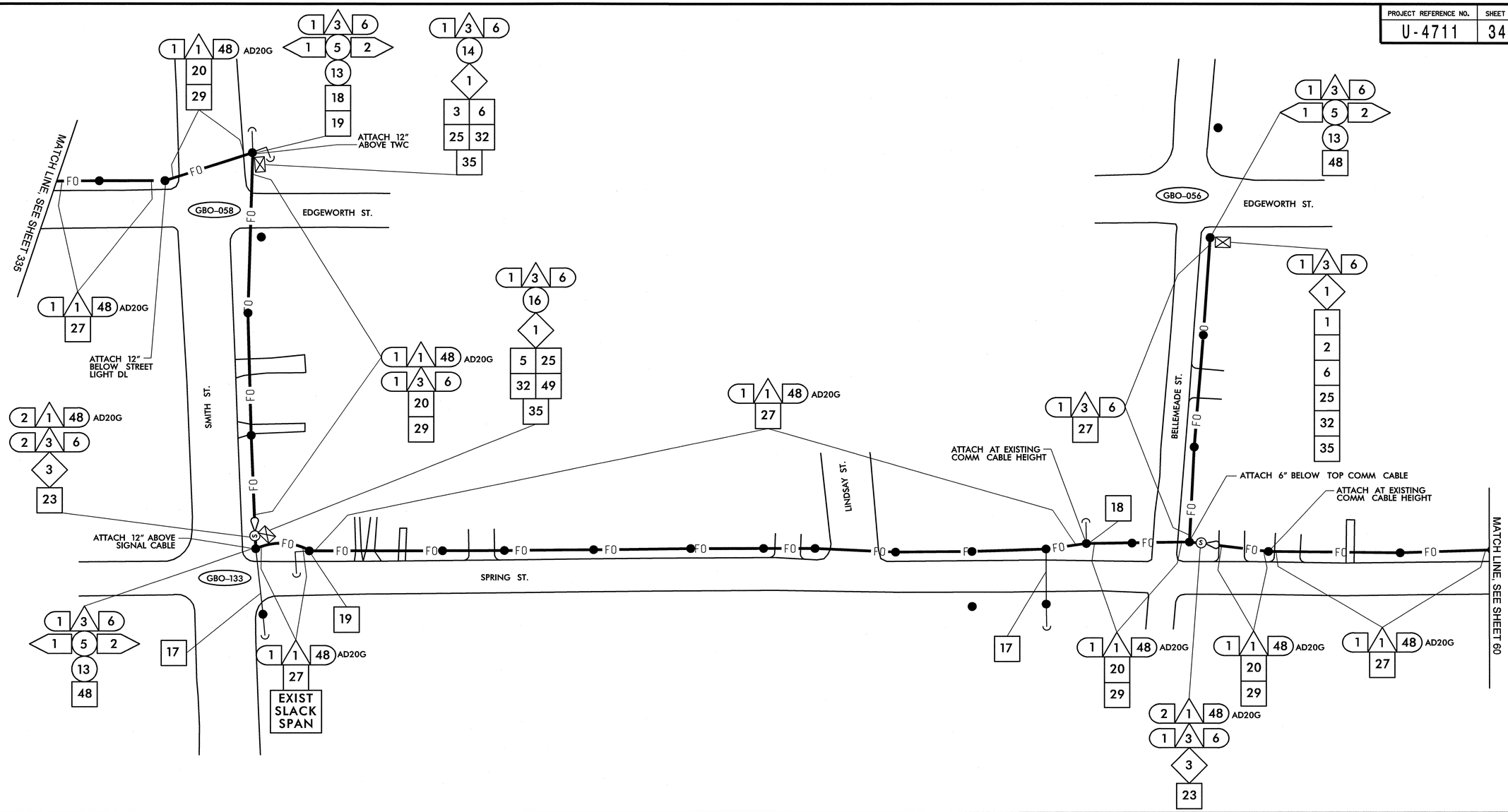
PROJECT REFERENCE NO.	SHEET NO.
U-4711	344



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
DIVISION OF HIGHWAYS
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0344.dgn

2/20/2008
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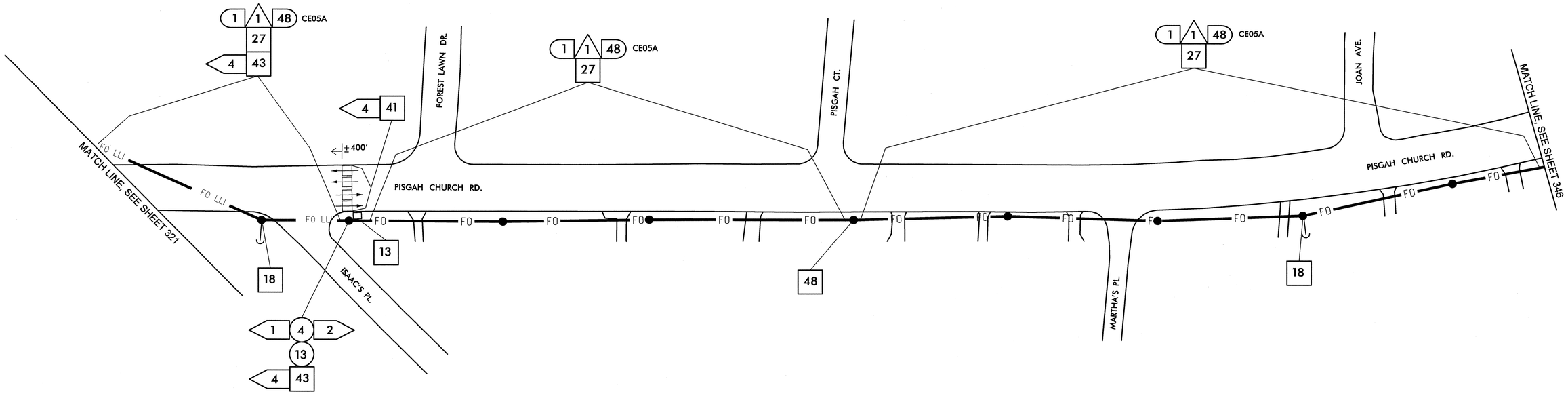
PROJECT REFERENCE NO.	SHEET NO.
U-4711	345



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0345.dgn

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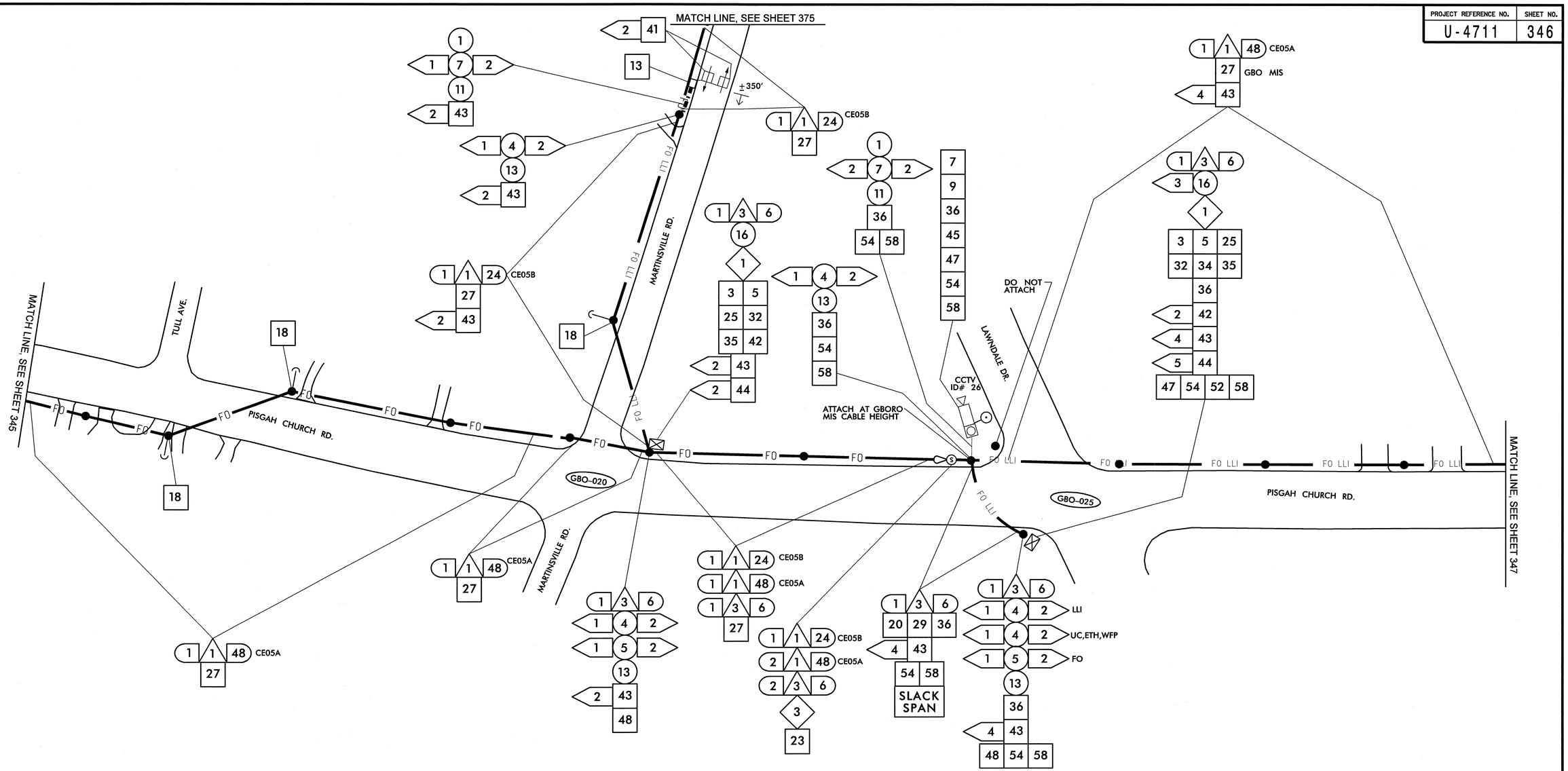
PROJECT REFERENCE NO.	SHEET NO.
U-4711	346



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
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12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT Power CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
Transportation Management Unit
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0346.dgn

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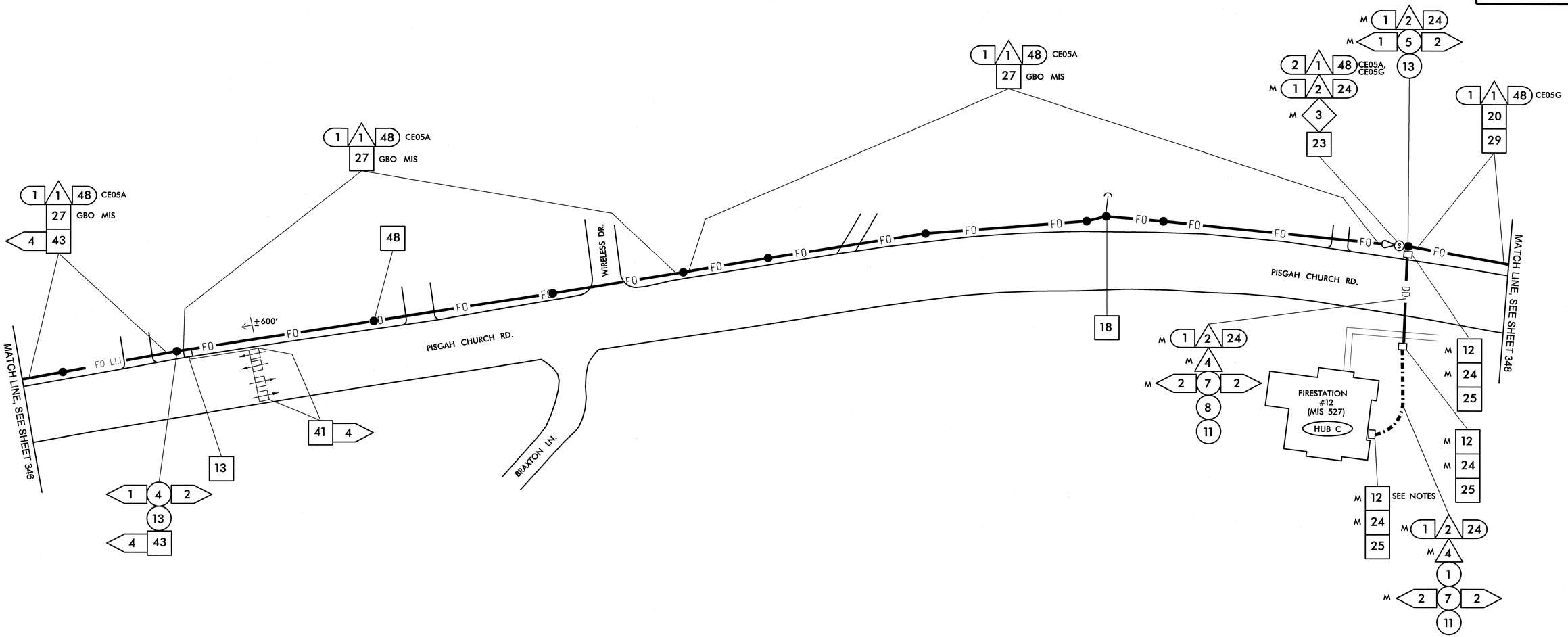
PROJECT REFERENCE NO.	SHEET NO.
U-4711	347



NOTES (THIS SHEET ONLY)

1. SEE BUILDING ENTRANCE DETAIL FOR ROUTING INTO BUILDING

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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3	INSTALL AERIAL SPLICE ENCLOSURE
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5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
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39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

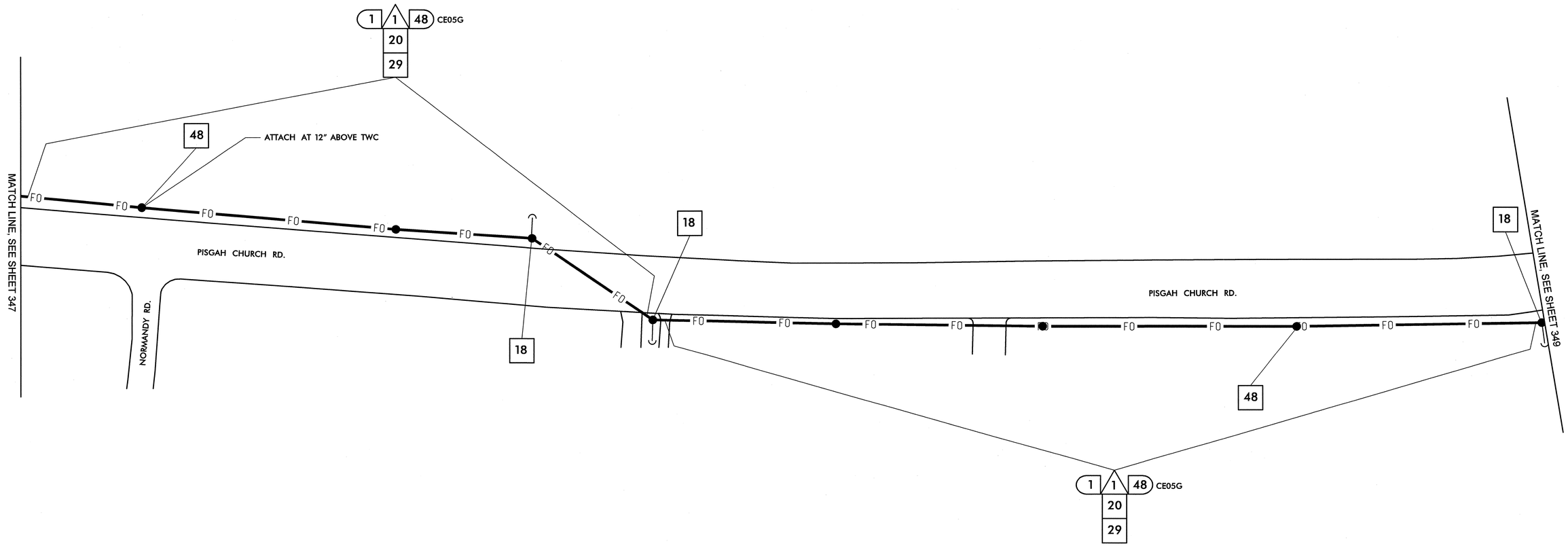
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/29/08

CADD Filename: ...\Sht0347m.dgn

2/29/2008
n:\systems\projects\01h62020 (g-boro mis)\Sht0347m.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	348



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2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
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1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/22/08

CADD Filename: ...\Sht0348m.dgn

2/20/2008
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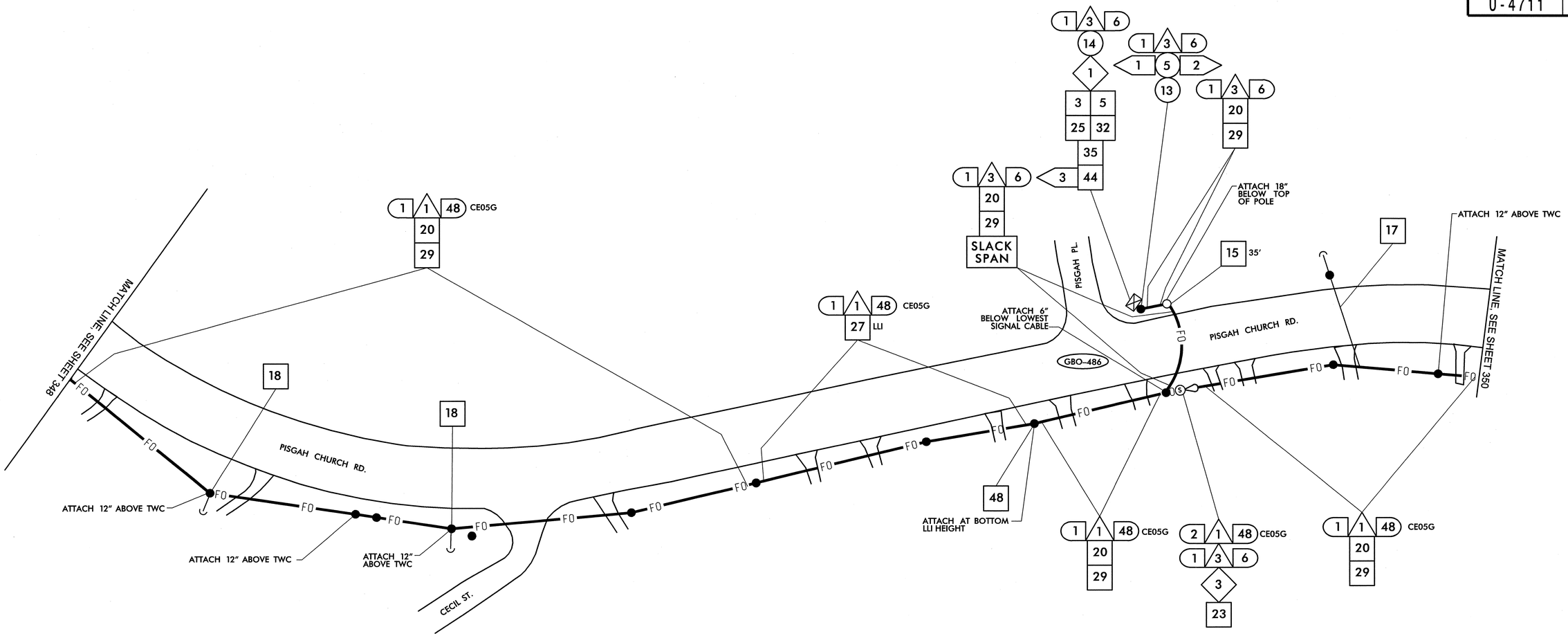
PROJECT REFERENCE NO.	SHEET NO.
U-4711	349



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(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

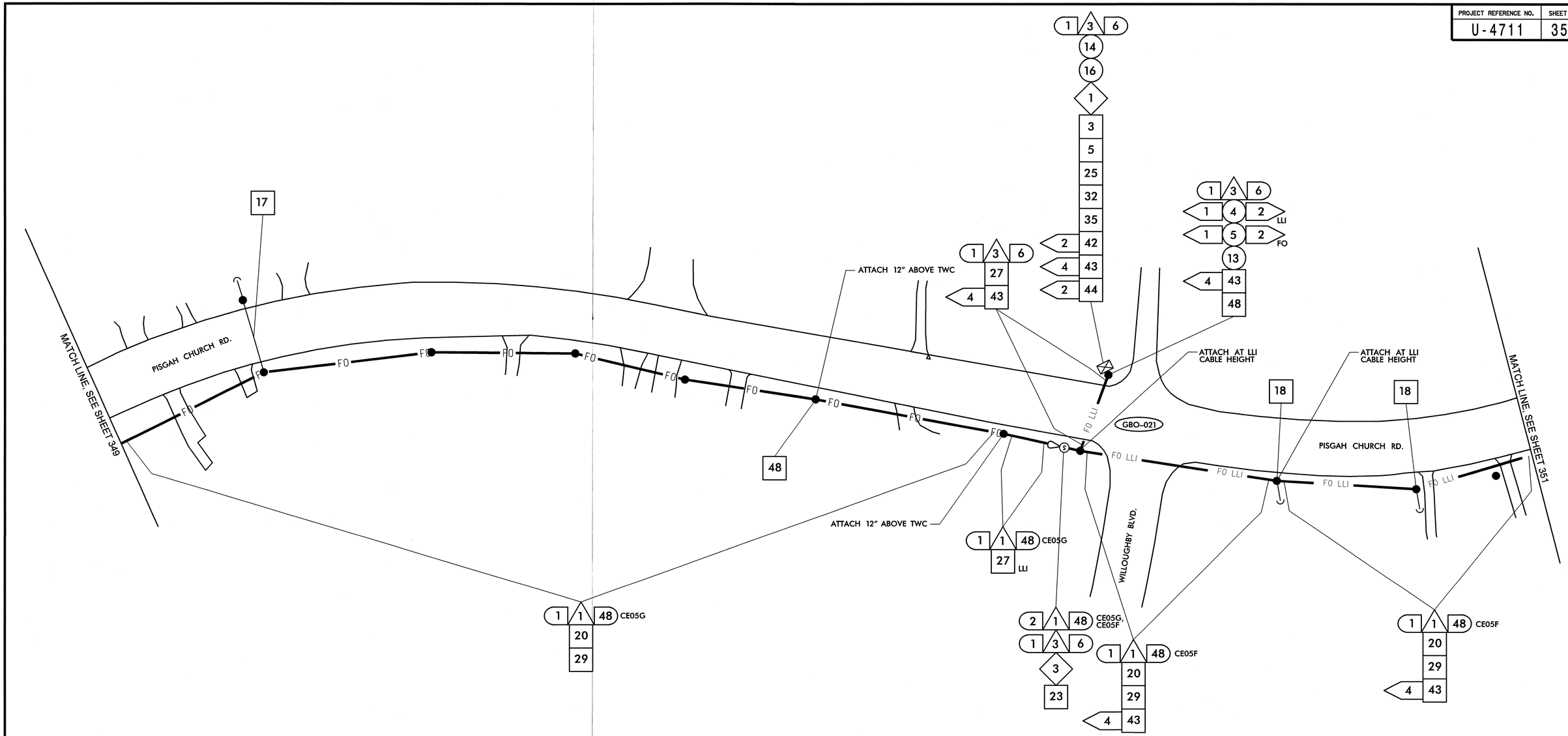
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0349m.dgn

2/20/2008
I:\systems\projects\U4620020 (g-bro mtg\Sht0349m.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	350



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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0350m.dgn

2/20/2008
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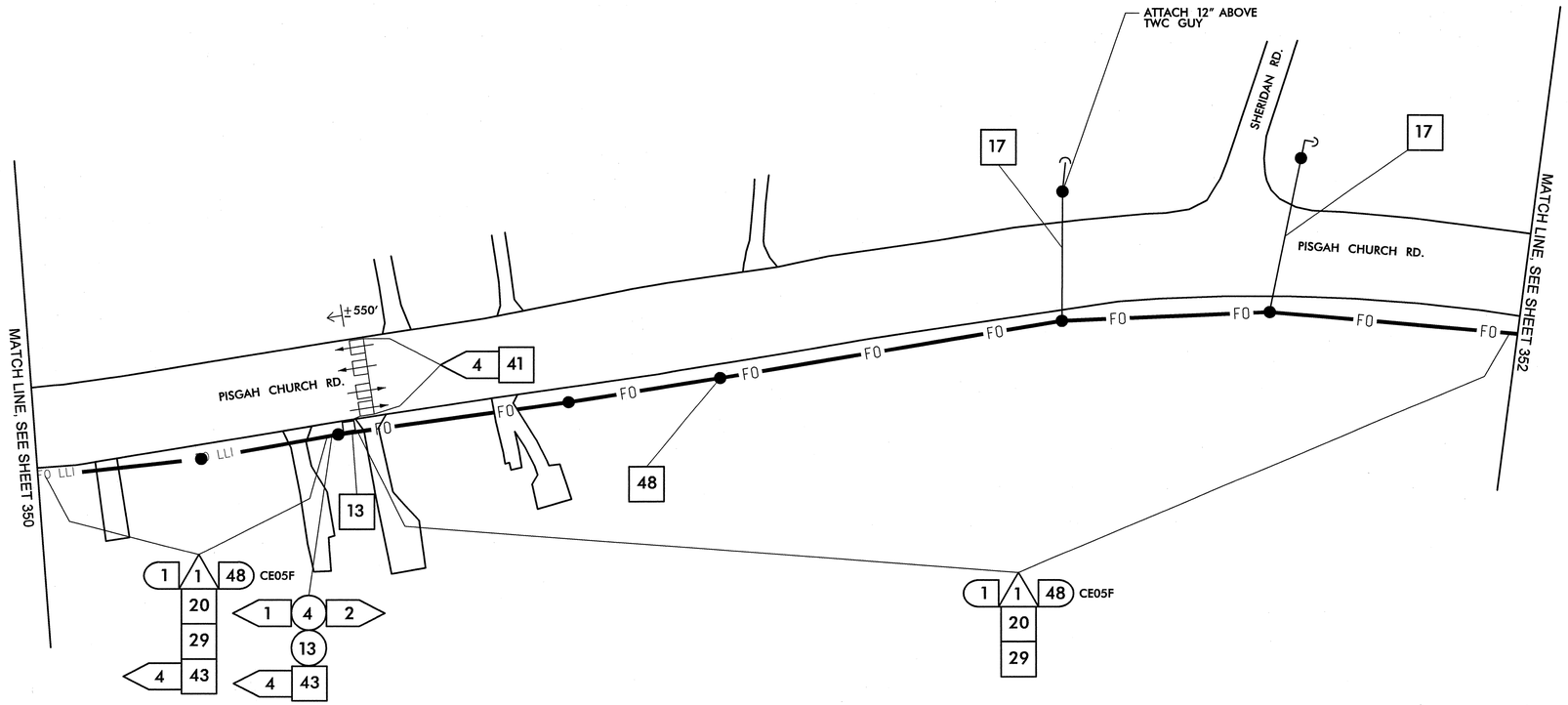
PROJECT REFERENCE NO.	SHEET NO.
U-4711	351



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CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

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2/20/2008
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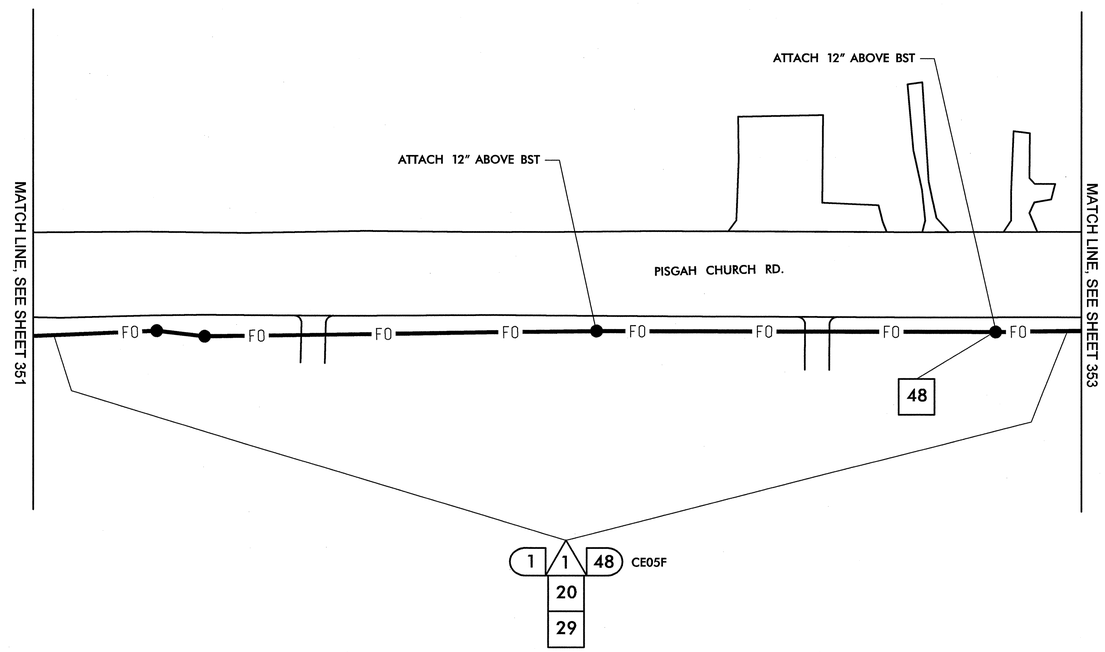
PROJECT REFERENCE NO.	SHEET NO.
U-4711	352



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
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17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

SCALE 0 50

750 Greenfield Pkwy., Garner, NC 27529

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

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SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0352.dgn

2/20/2008
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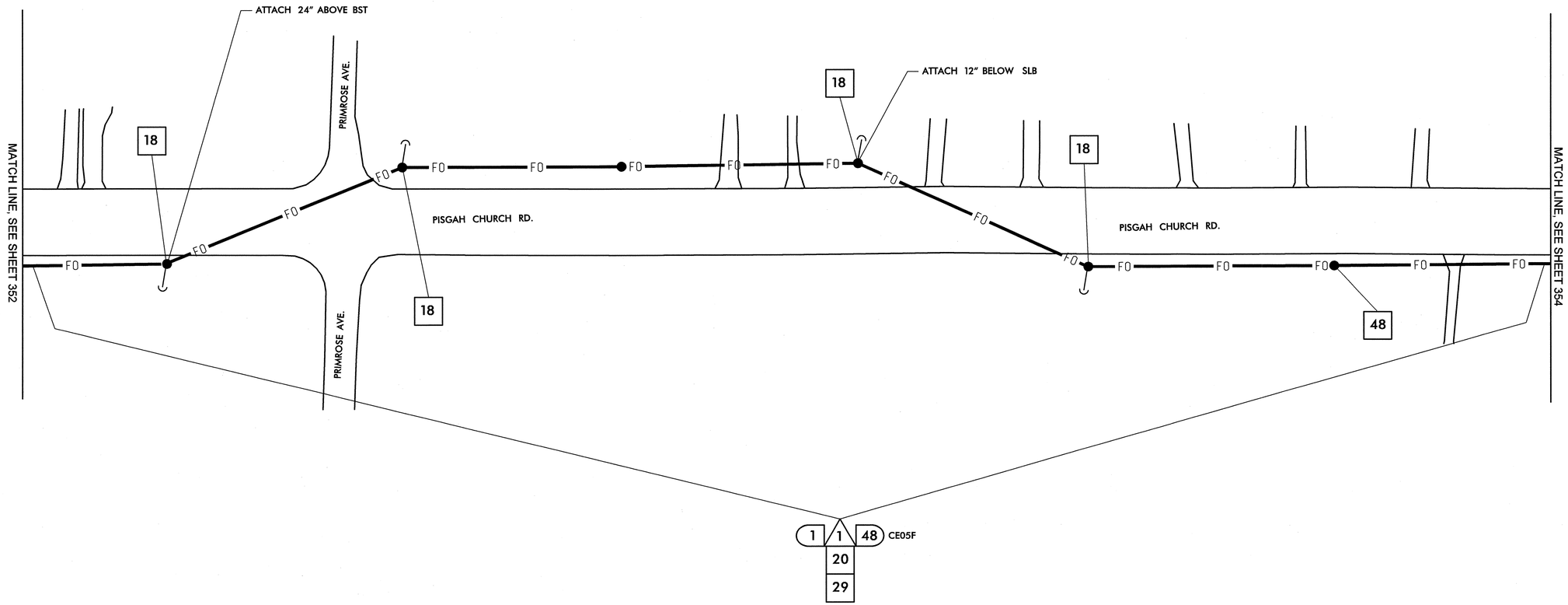
PROJECT REFERENCE NO.	SHEET NO.
U-4711	353



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NOTE:
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PLANS PREPARED IN THE OFFICE OF:
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(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

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SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0353.dgn

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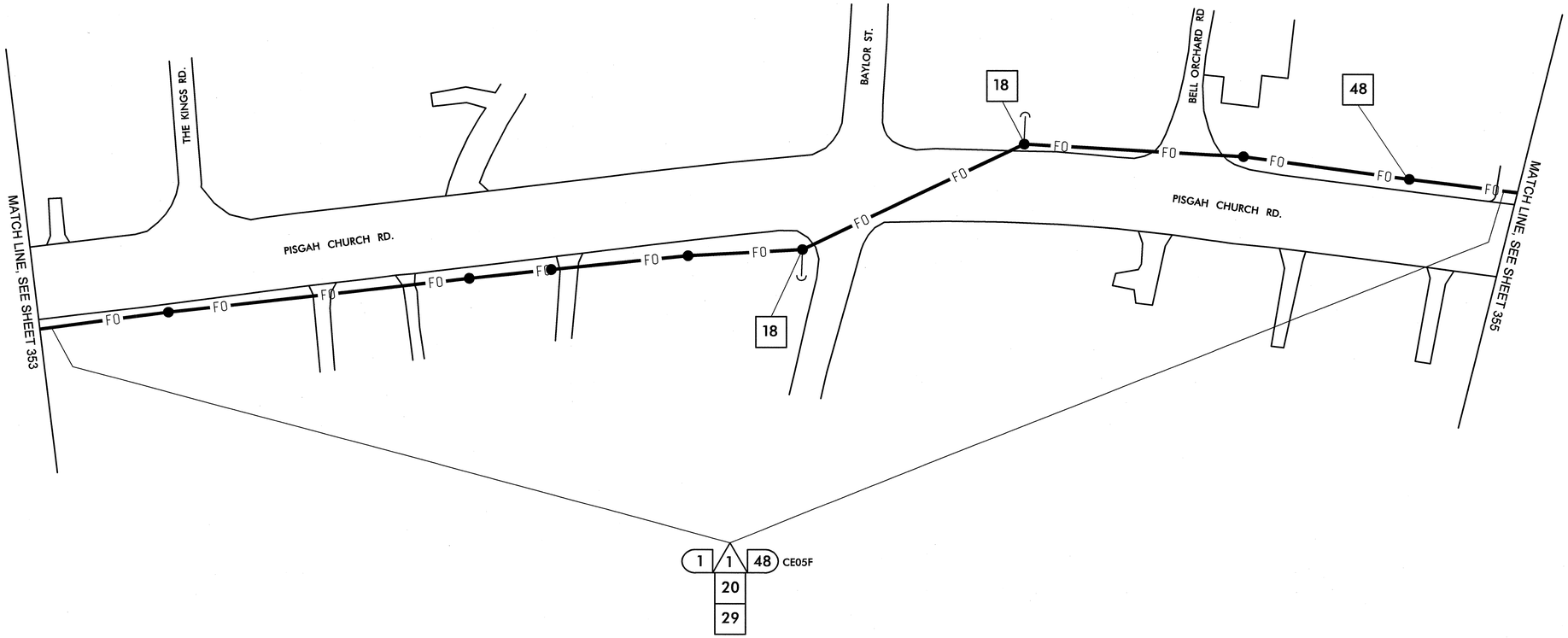
PROJECT REFERENCE NO.	SHEET NO.
U-4711	354



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NOTE:
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PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename ...\Sht0354.dgn

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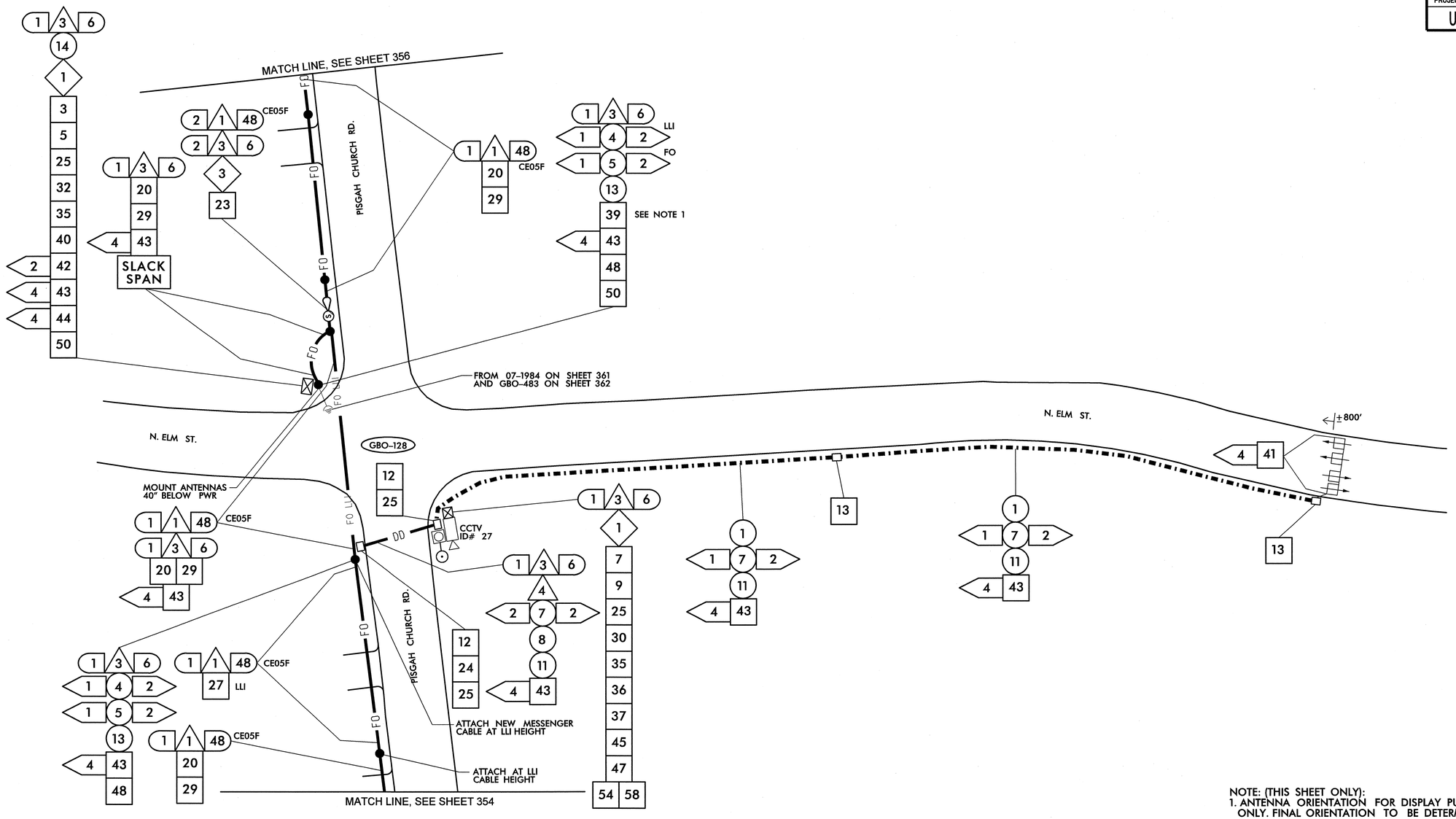
PROJECT REFERENCE NO.	SHEET NO.
U-4711	355



NOTE: (THIS SHEET ONLY):
1. ANTENNA ORIENTATION FOR DISPLAY PURPOSES ONLY. FINAL ORIENTATION TO BE DETERMINED IN THE FIELD.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
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Public Leadership and Safety Through Innovative Transportation Systems
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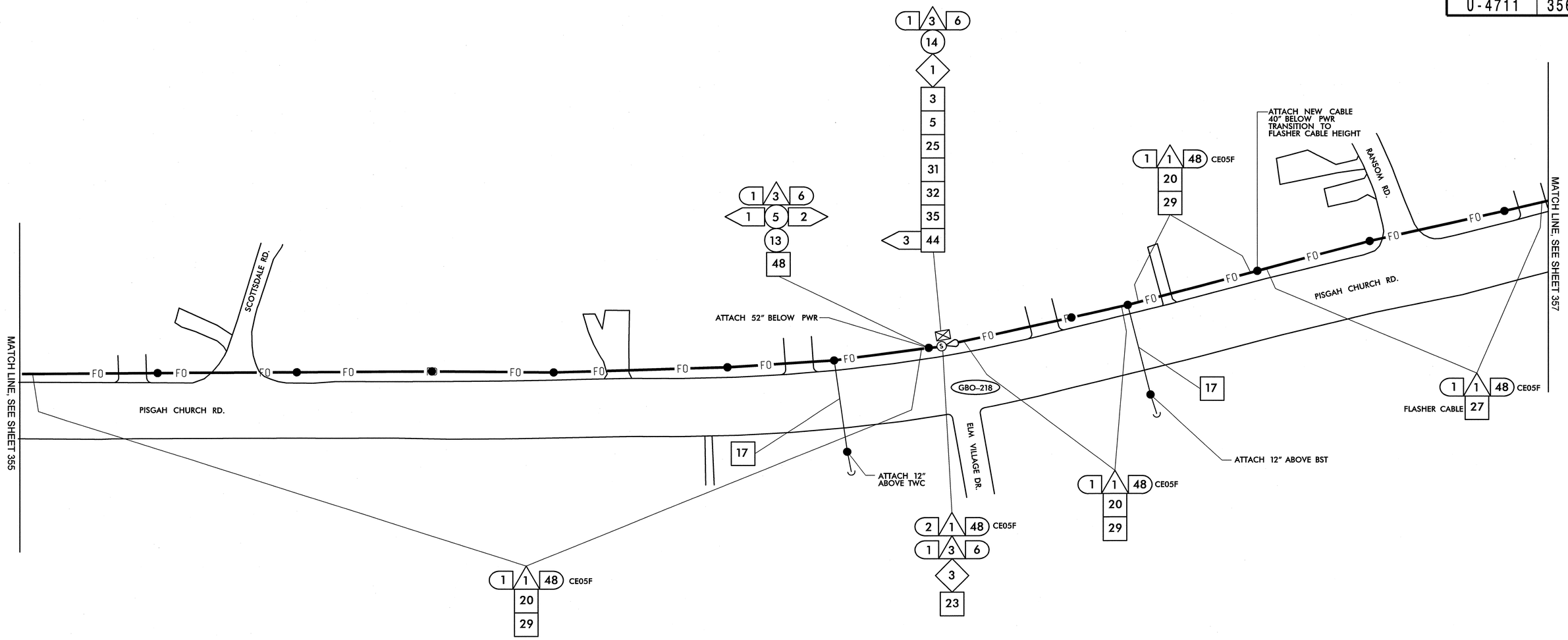
PROJECT REFERENCE NO.	SHEET NO.
U-4711	356



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 — GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 — REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN — REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE — DATE 2/20/08

CADD Filename: ...\Sht0356.dgn

2/20/2008
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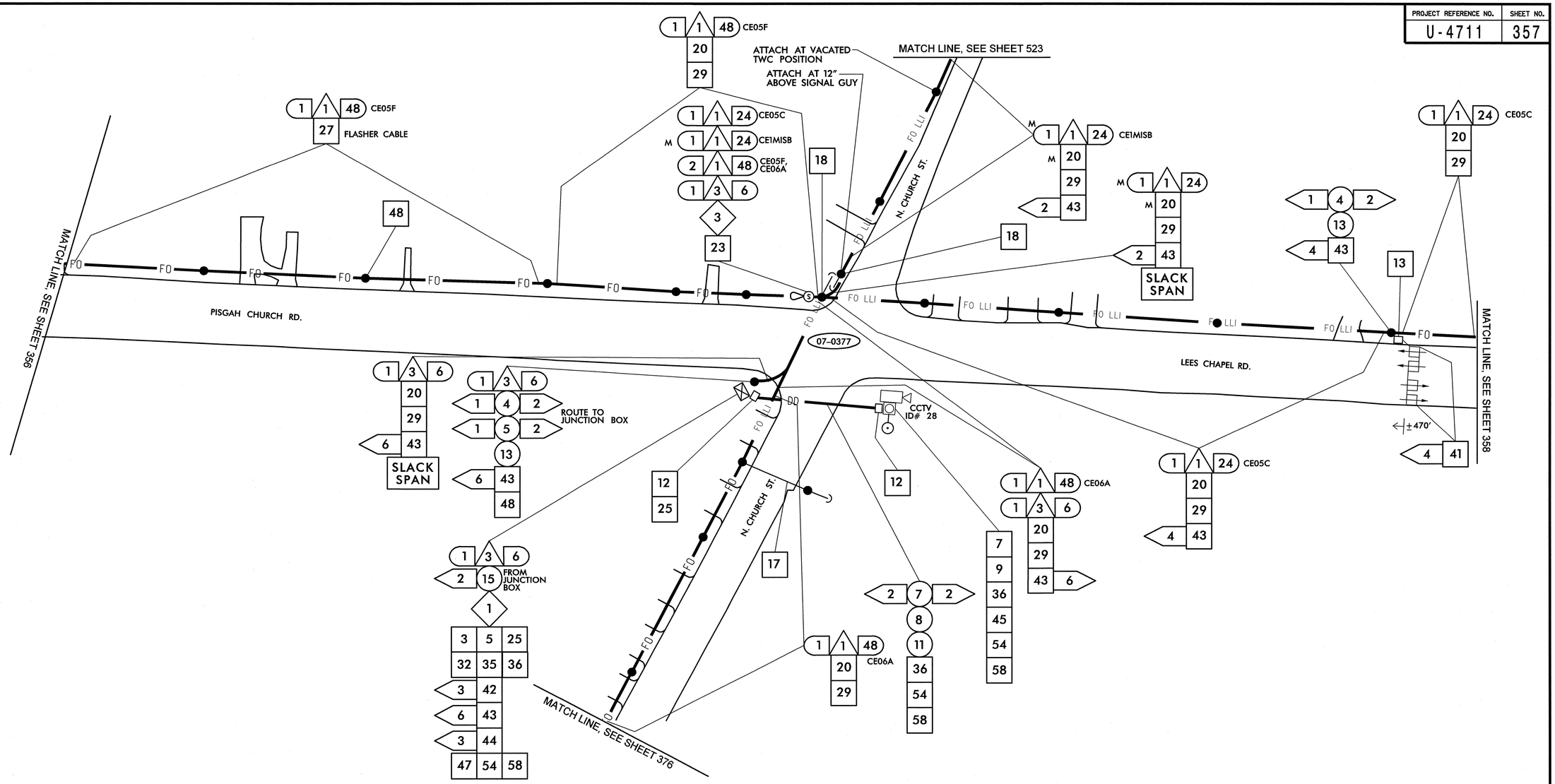
PROJECT REFERENCE NO.	SHEET NO.
U-4711	357



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4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
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33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
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40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
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43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
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53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\sht0357m.dgn

2/20/2008
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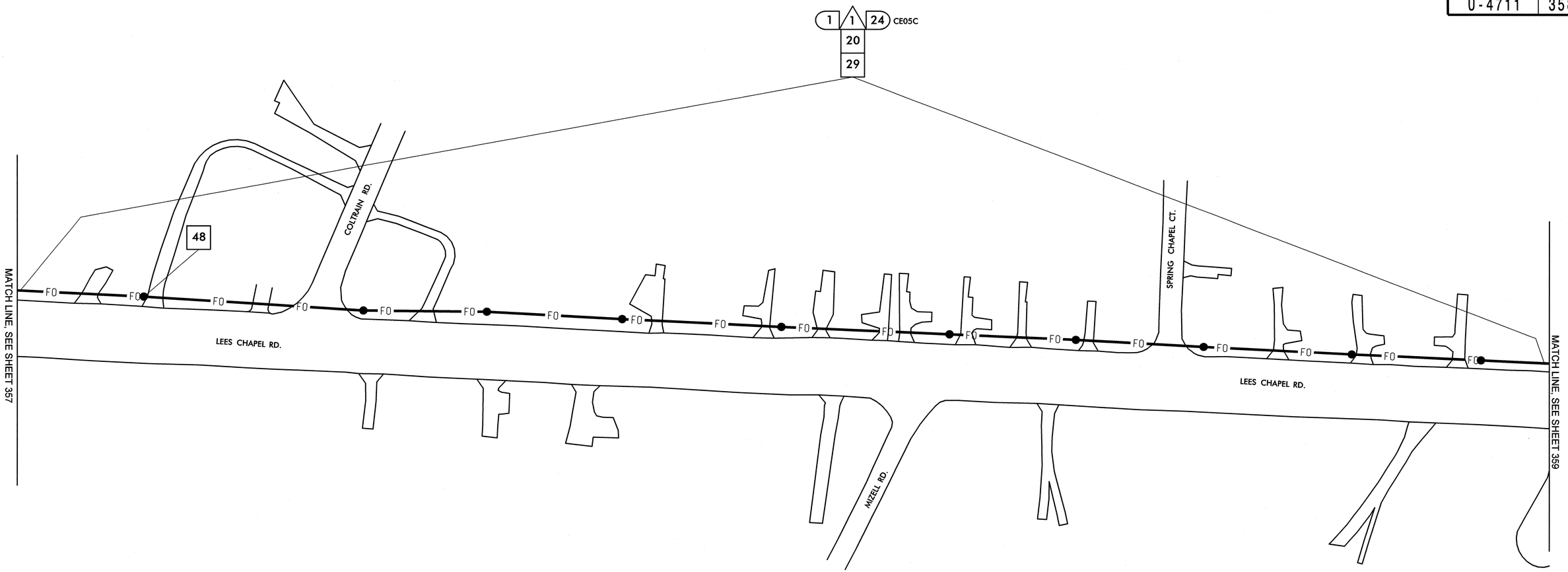
PROJECT REFERENCE NO.	SHEET NO.
U-4711	358



1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE	44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE	45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE	46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE	47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE	48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE	49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER	50	INSTALL ANTENNA CABLE		
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET	51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX	52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH				
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE				
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET				
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA				
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA				
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER				
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP				
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER				
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE				
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER						
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE						

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0358.dgn

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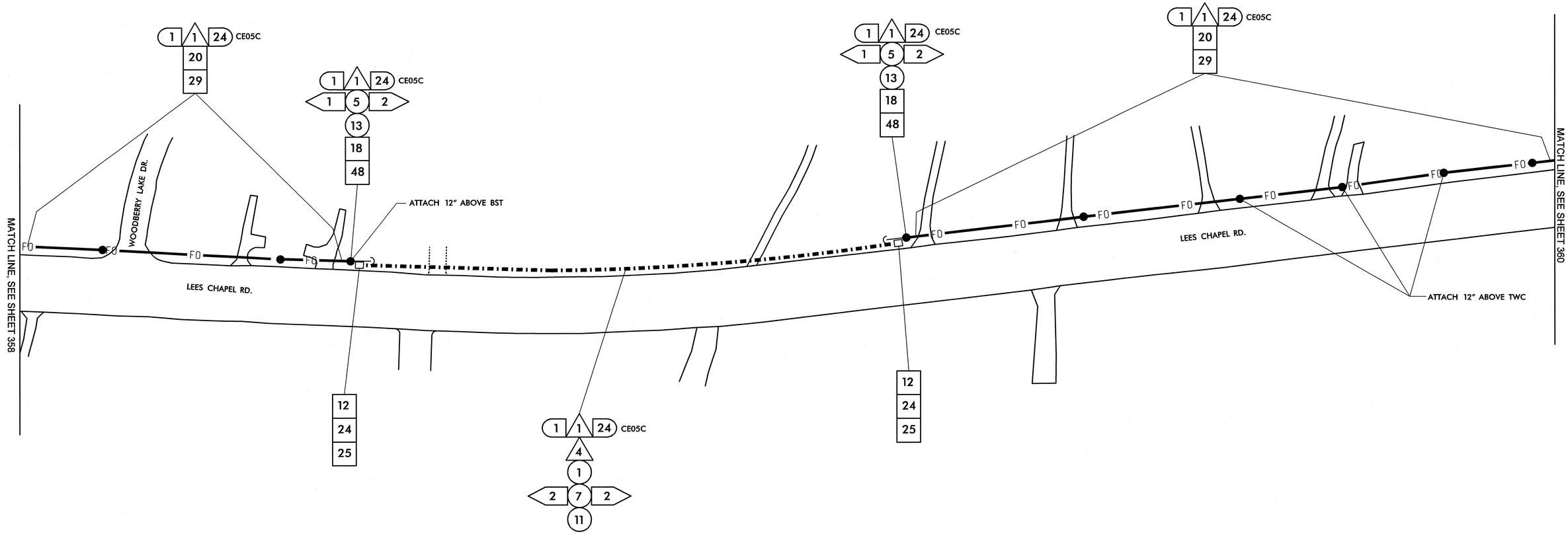
PROJECT REFERENCE NO.	SHEET NO.
U-4711	359



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
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4	INSTALL TRACER WIRE
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NOTE:
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PLANS PREPARED IN THE OFFICE OF:
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Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filenames ...\Sht0359.dgn

2/20/2008
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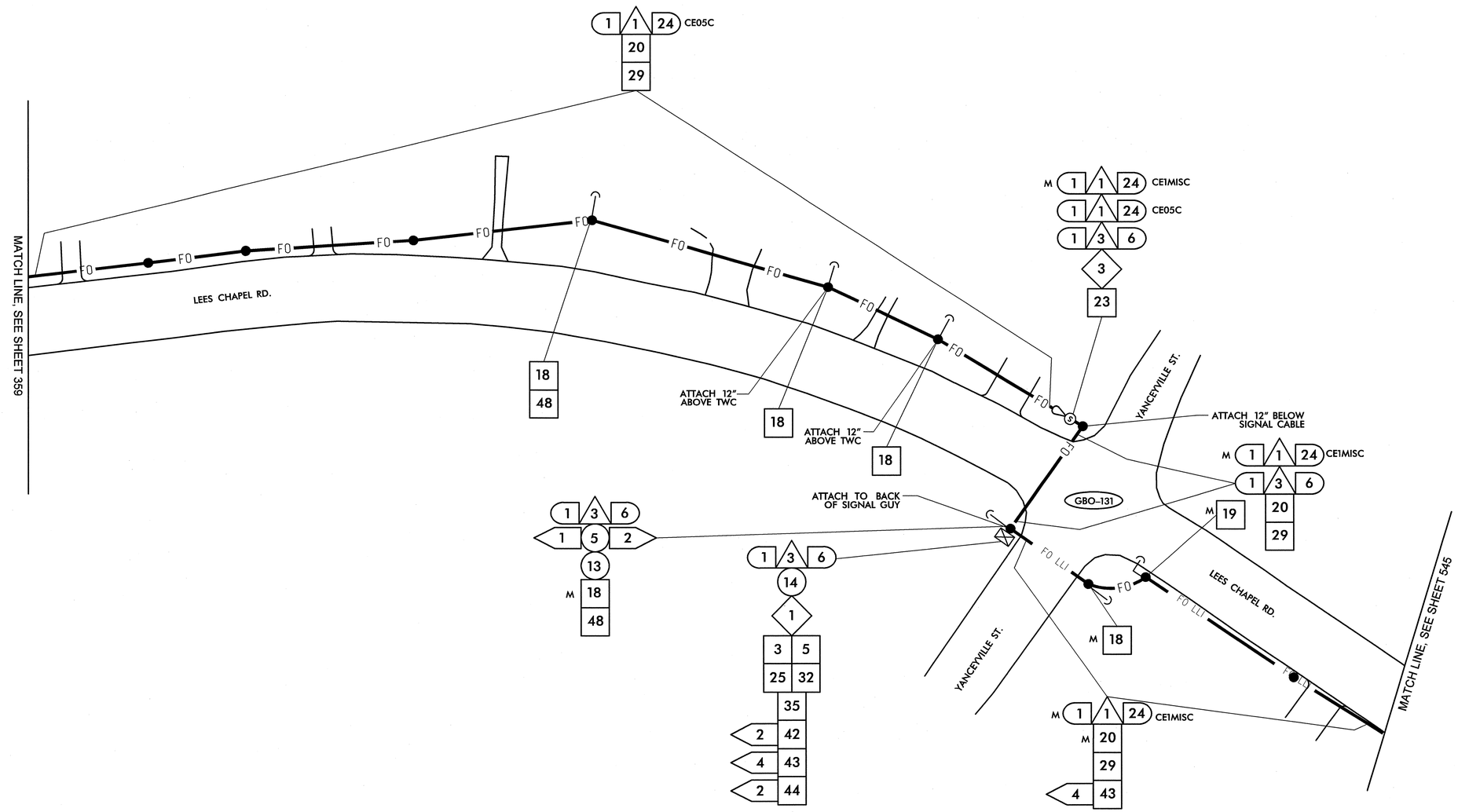
PROJECT REFERENCE NO.	SHEET NO.
U-4711	360



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16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008	REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN	REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename ...\Sht0360m.dgn

2/20/2008
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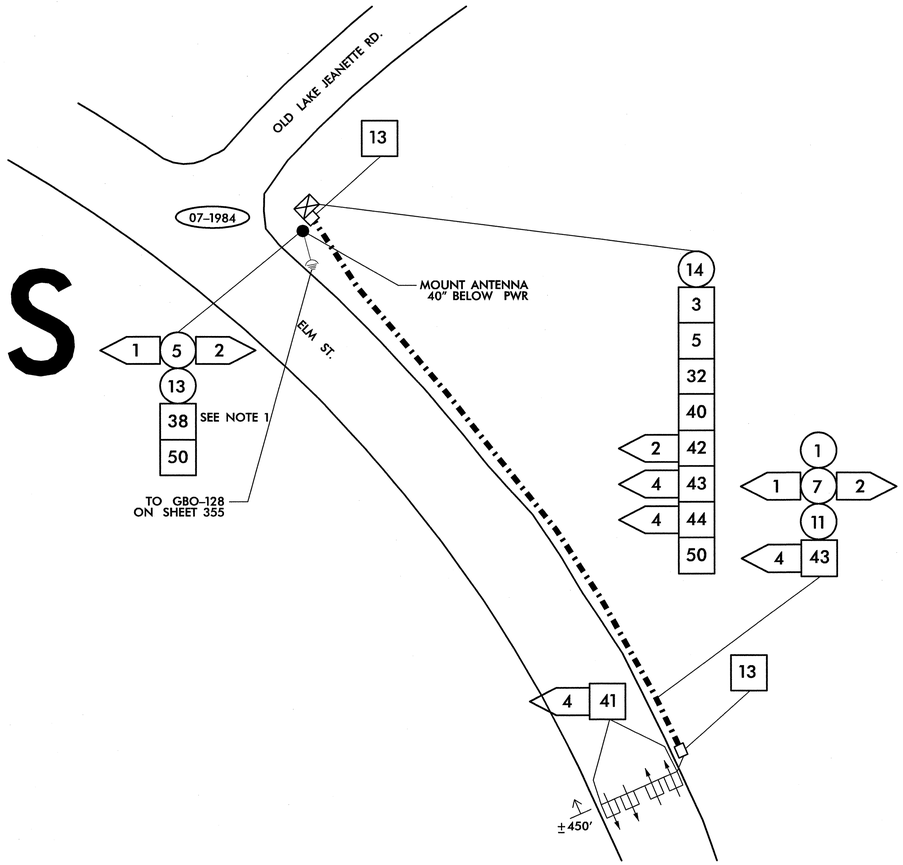
PROJECT REFERENCE NO.	SHEET NO.
U-4711	361

WIRELESS



NOTE: (THIS SHEET ONLY):
1. ANTENNA ORIENTATION FOR DISPLAY PURPOSES ONLY. FINAL ORIENTATION TO BE DETERMINED IN THE FIELD.

1	INSTALL SMFO CABLE	14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE	6	INSTALL NEW 336S CABINET	26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE	15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	7	INSTALL CCTV CAMERA ASSEMBLY	27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
3	INSTALL FIBER OPTIC DROP CABLE	16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	8	INSTALL CCTV CAMERA WOOD POLE	28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
4	INSTALL TRACER WIRE	17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET	9	INSTALL CCTV METAL POLE AND FOUNDATION	29	LASH CABLE(S) TO NEW MESSENGER CABLE
5	REUSE NCDOT SMFO CABLE	18	INSTALL NEW RISER INTO POLE MOUNTED CABINET	10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX	30	INSTALL NEW ELECTRICAL SERVICE
6	REUSE GDOT SMFO CABLE	19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING	11	INSTALL SPECIAL OVERSIZED JUNCTION BOX	31	MODIFY EXISTING ELECTRICAL SERVICE
1	TRENCH	1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	12	INSTALL OVERSIZED JUNCTION BOX	32	INSTALL NEW CONTROLLER
2	INSTALL PVC CONDUIT	2	INSTALL UNDERGROUND SPLICE ENCLOSURE	13	INSTALL STANDARD JUNCTION BOX	33	INSTALL EXISTING CABLE IN NEW CABINET
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT	3	INSTALL AERIAL SPLICE ENCLOSURE	14	REMOVE EXISTING JUNCTION BOX	34	INSTALL GENERATOR POWER INLET BOX
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	4	INSTALL POLE MOUNTED SPLICE CABINET	15	INSTALL WOOD POLE	35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING	5	INSTALL BASE MOUNTED SPLICE CABINET	16	REMOVE EXISTING WOOD POLE	36	INSTALL UNIFIED CABLE
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	6	REMOVE EXISTING SPLICE CABINET	17	INSTALL AERIAL GUY ASSEMBLY	37	INSTALL POLE MOUNTED EQUIPMENT CABINET
7	INSTALL POLYETHYLENE CONDUIT	7	INSTALL TERMINAL SPLICE BOX	18	INSTALL STANDARD GUY ASSEMBLY	38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
8	DIRECTIONAL DRILL CONDUIT	8	MODIFY EXISTING SPLICE ENCLOSURE	19	INSTALL SIDEWALK GUY ASSEMBLY	39	INSTALL OMNI-DIRECTIONAL ANTENNA
9	BORE AND JACK CONDUIT	1	INSTALL CABINET FOUNDATION	20	INSTALL MESSENGER CABLE	40	INSTALL RADIO TRANSCEIVER
10	INSTALL CABLE(S) IN EXISTING CONDUIT	2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER	21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	41	INSTALL SYSTEM LOOP
11	INSTALL CABLE(S) IN NEW CONDUIT	3	MODIFY EXISTING CABINET FOUNDATION	22	REMOVE EXISTING COMMUNICATIONS CABLE	42	INSTALL SYSTEM LOOP AMPLIFIER
12	INSTALL CABLE(S) IN EXISTING RISER	4	INSTALL NEW 333 COMMUNICATION CABINET	23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	43	INSTALL SYSTEM LOOP LEAD-IN CABLE
13	INSTALL CABLE(S) IN NEW RISER	5	INSTALL NEW 332 BASE MOUNTED CABINET	24	INSTALL DELINEATOR MARKER		
				25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE		

44	INSTALL LOCAL LOOP AMPLIFIER	53	INSTALL DSL ETHERNET SWITCH
45	INSTALL CITY WI-FI ANTENNA	54	INSTALL ETHERNET CABLE
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH	55	INSTALL TERMINAL SERVER
47	INSTALL CODEC	56	INSTALL MICROWAVE VEHICLE DETECTOR
48	BOND MESSENGER CABLE TO POLE GROUND	57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION	58	INSTALL WIRELESS ACCESS POINT POWER CABLE
50	INSTALL ANTENNA CABLE		
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT		
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT		

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO
COMPUTERIZED
SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE:	FEBRUARY, 2008	REVIEWED BY:	K.W. SMITH
PREPARED BY:	K.D. VANPATTEN	REVIEWED BY:	M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/20/08

CADD Filename: ...\Sht0361.dgn

2/20/2008
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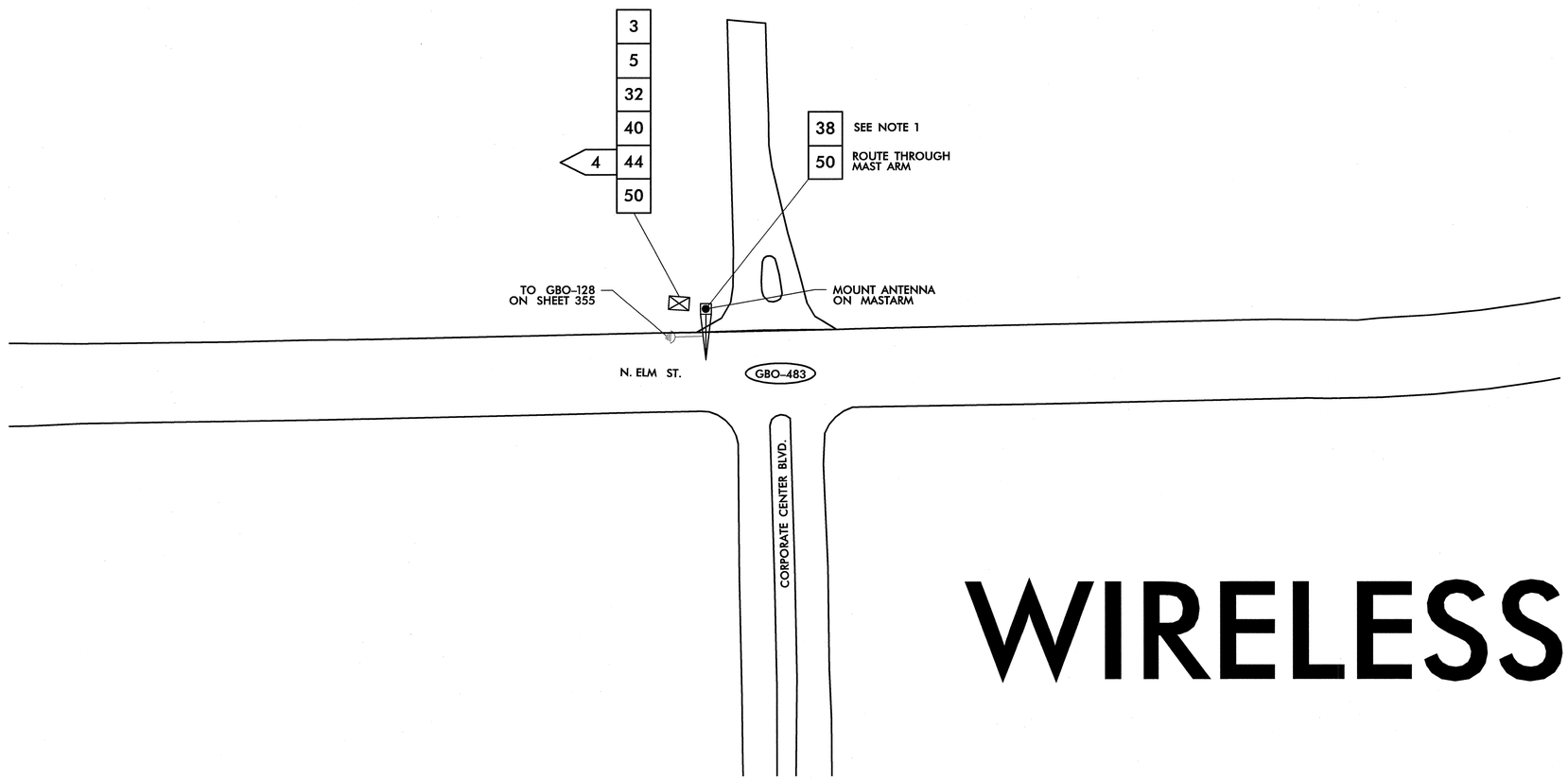
PROJECT REFERENCE NO.	SHEET NO.
U-4711	362



WIRELESS

NOTE: (THIS SHEET ONLY):
1. ANTENNA ORIENTATION FOR DISPLAY PURPOSES ONLY. FINAL ORIENTATION TO BE DETERMINED IN THE FIELD.

1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Public Safety and Safety Services Division
Intelligent Transportation Systems
750 Greenfield Pkwy., Garner, NC 27529

SCALE
0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0362.dgn

2/20/2008
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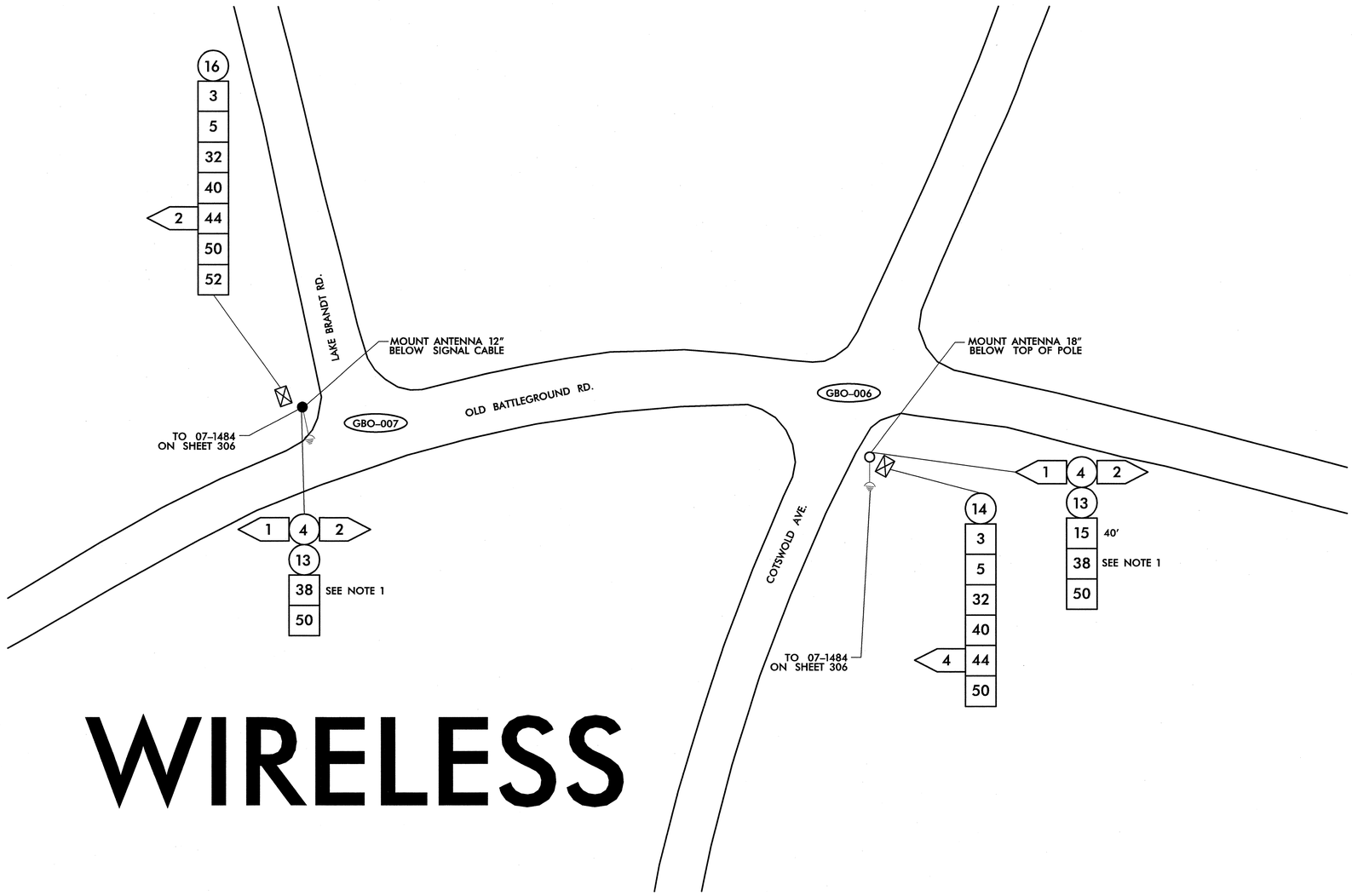
PROJECT REFERENCE NO.	SHEET NO.
U-4711	363



WIRELESS

NOTES (THIS SHEET ONLY):

1. ANTENNA ORIENTATION FOR DISPLAY PURPOSES ONLY. FINAL ORIENTATION TO BE DETERMINED IN THE FIELD.

1. INSTALL SMFO CABLE
2. INSTALL PLENUM RATED FIBER OPTIC CABLE
3. INSTALL FIBER OPTIC DROP CABLE
4. INSTALL TRACER WIRE
5. REUSE NCDOT SMFO CABLE
6. REUSE GDOT SMFO CABLE
1. TRENCH
2. INSTALL PVC CONDUIT
3. INSTALL RIGID, GALVANIZED STEEL CONDUIT
4. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7. INSTALL POLYETHYLENE CONDUIT
8. DIRECTIONAL DRILL CONDUIT
9. BORE AND JACK CONDUIT
10. INSTALL CABLE(S) IN EXISTING CONDUIT
11. INSTALL CABLE(S) IN NEW CONDUIT
12. INSTALL CABLE(S) IN EXISTING RISER
13. INSTALL CABLE(S) IN NEW RISER
14. INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17. INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18. INSTALL NEW RISER INTO POLE MOUNTED CABINET
19. REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2. INSTALL UNDERGROUND SPLICE ENCLOSURE
3. INSTALL AERIAL SPLICE ENCLOSURE
4. INSTALL POLE MOUNTED SPLICE CABINET
5. INSTALL BASE MOUNTED SPLICE CABINET
6. REMOVE EXISTING SPLICE CABINET
7. INSTALL TERMINAL SPLICE BOX
8. MODIFY EXISTING SPLICE ENCLOSURE
1. INSTALL CABINET FOUNDATION
2. REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3. MODIFY EXISTING CABINET FOUNDATION
4. INSTALL NEW 333 COMMUNICATION CABINET
5. INSTALL NEW 332 BASE MOUNTED CABINET
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7. INSTALL CCTV CAMERA ASSEMBLY
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46. INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47. INSTALL CODEC
48. BOND MESSENGER CABLE TO POLE GROUND
49. INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50. INSTALL ANTENNA CABLE
51. RECONNECT RAILROAD PREEMPTION EQUIPMENT
52. RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53. INSTALL DSL ETHERNET SWITCH
54. INSTALL ETHERNET CABLE
55. INSTALL TERMINAL SERVER
56. INSTALL MICROWAVE VEHICLE DETECTOR
57. INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58. INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
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P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO
COMPUTERIZED
SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY
PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH
PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO
SIGNATURE DATE 2/20/08
CADD Filename: ...\Sht0363.dgn

2/20/2008
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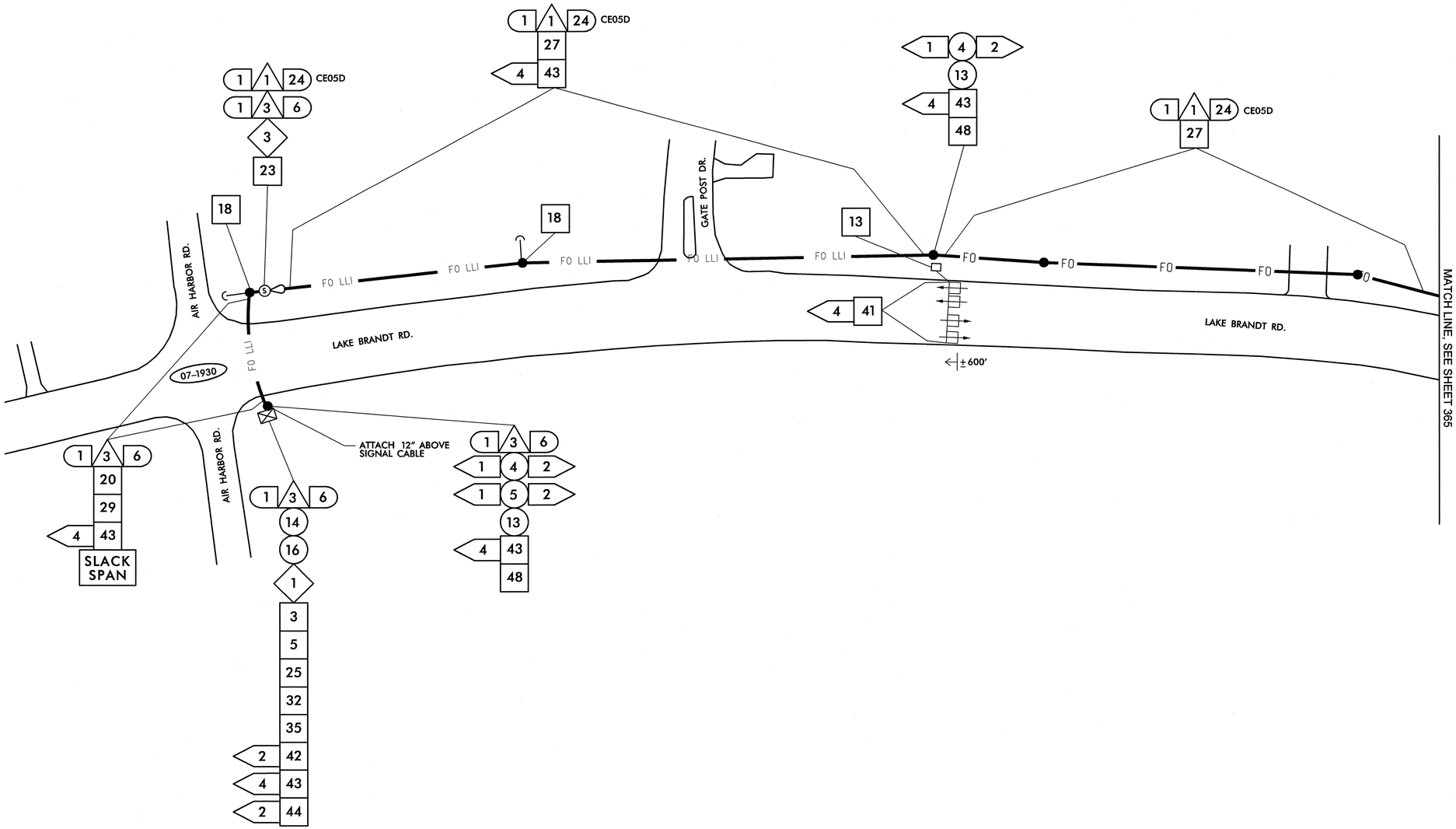
PROJECT REFERENCE NO.	SHEET NO.
U-4711	364



1	INSTALL SMFO CABLE
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8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
25	STORE 30 FEET OF EACH COMMUNICATIONS CABLE
26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Management & Transportation Systems
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/22/08 DATE

CADD Filename: ...\Sht0364.dgn

2/20/2008
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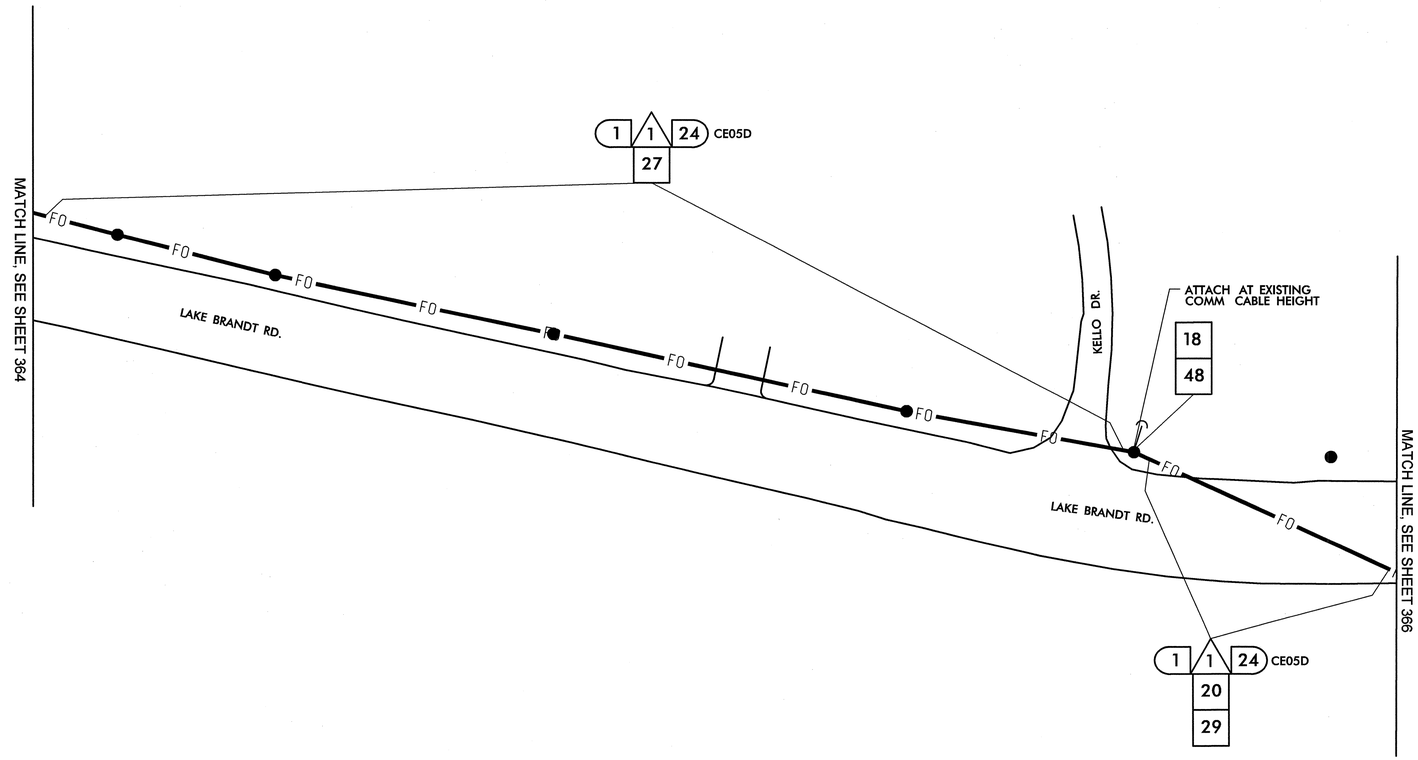
PROJECT REFERENCE NO.	SHEET NO.
U-4711	365



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3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
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9	BORE AND JACK CONDUIT
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NOTE:
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PLANS PREPARED IN THE OFFICE OF:

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P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0365.dgn

2/20/2008
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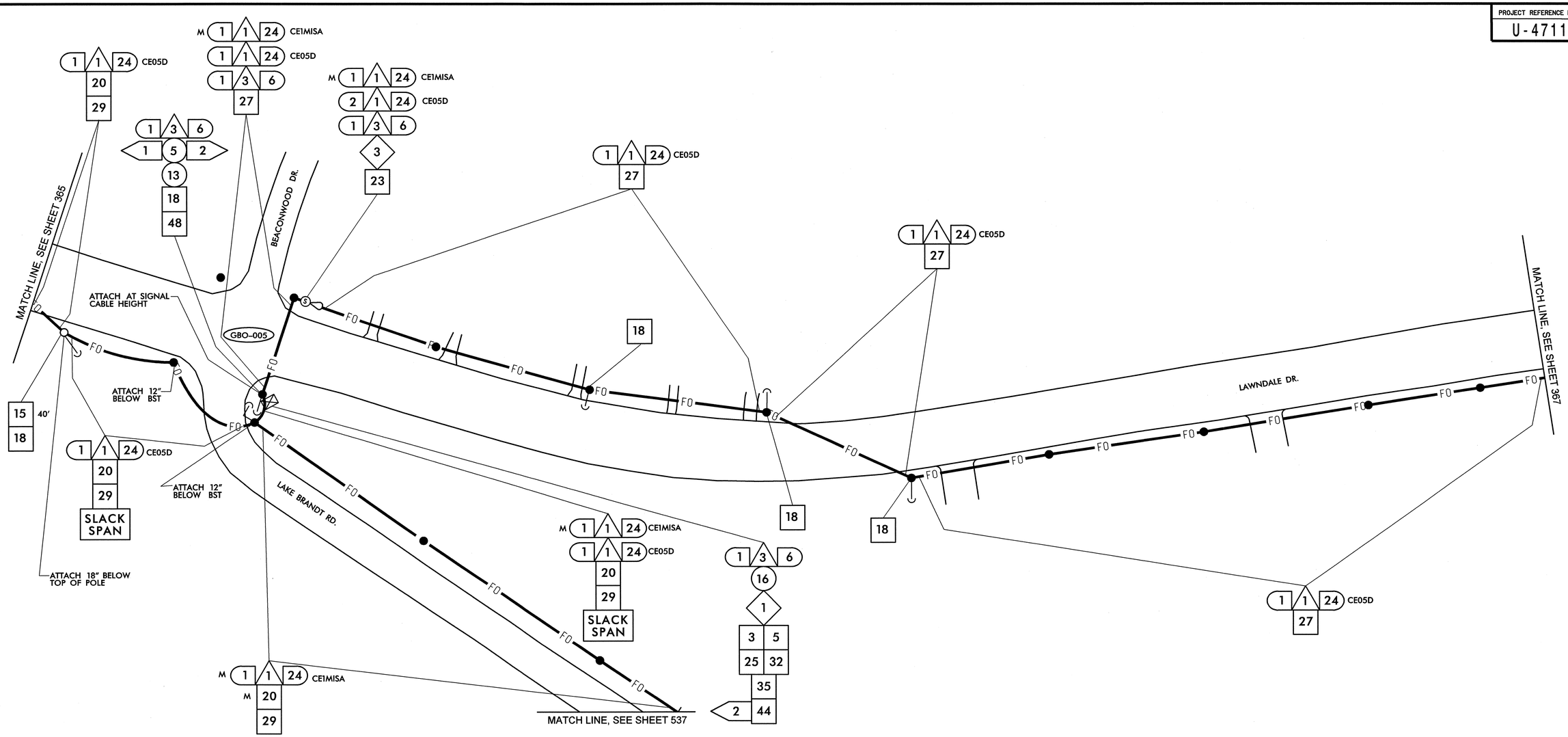
PROJECT REFERENCE NO.	SHEET NO.
U-4711	366



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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

Traffic Engineering and Safety Systems Branch
Intelligent Transportation Systems
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 Greenfield Pkwy., Garner, NC 27529

N
SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/29/08 DATE

CADD Filename: ...\sht0366m.dgn

2/29/2008
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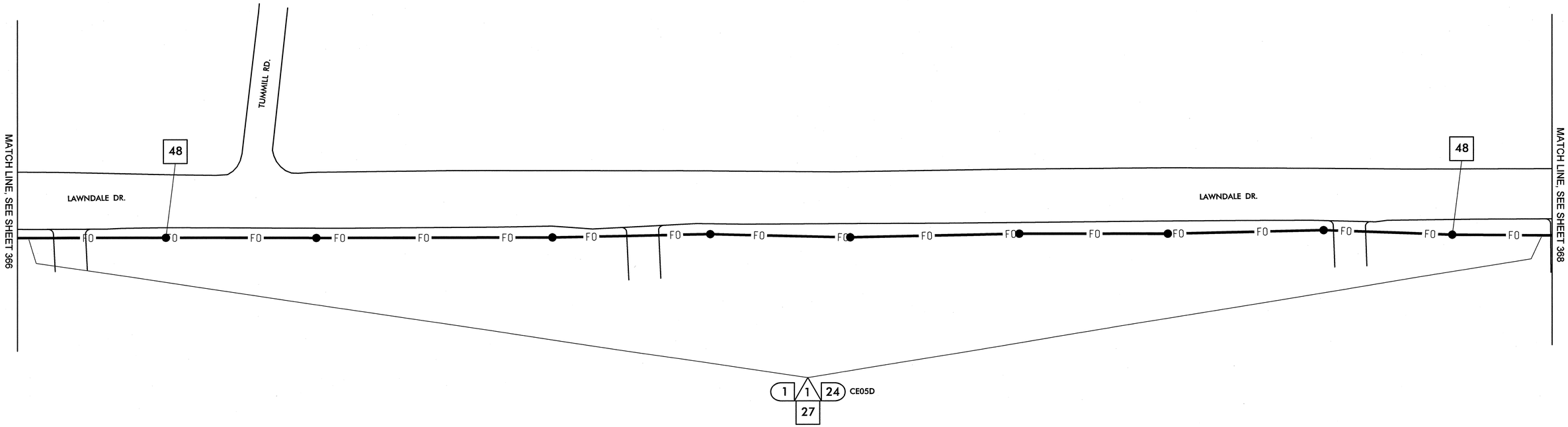
PROJECT REFERENCE NO.	SHEET NO.
U-4711	367



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Transportation Mobility and Safety Division
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750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

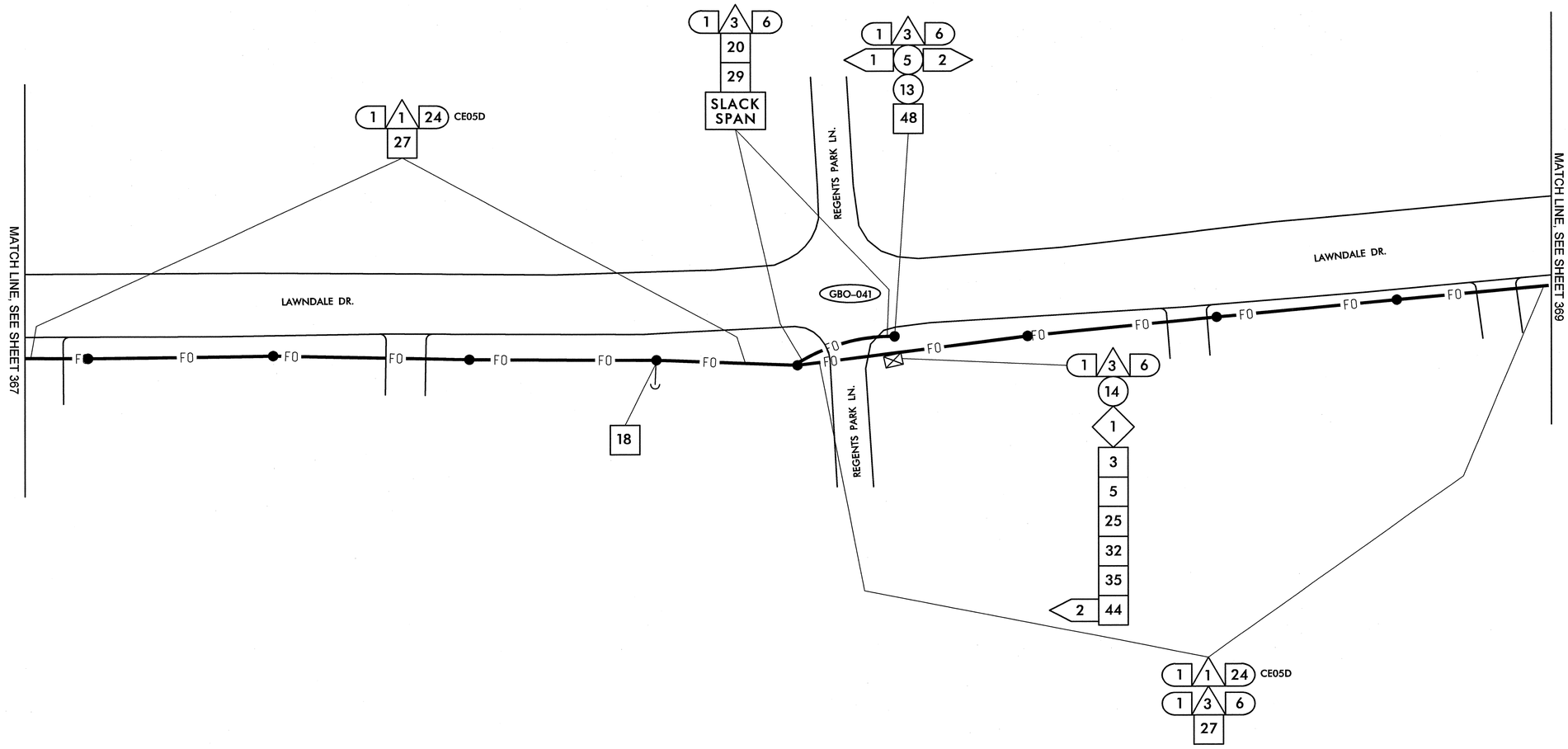
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/20/08 DATE

CADD Filename: ...\Sht0367.dgn

2/20/2008
I:\Systems\projects\U4711\2020_tg-bora mlsh\SHT0367.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4711	368



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26	STORE 100 FEET OF EACH COMMUNICATIONS CABLE
27	LASH CABLE(S) TO EXISTING SIGNAL/ COMMUNICATIONS CABLE
28	LASH CABLE(S) TO EXISTING MESSENGER CABLE
29	LASH CABLE(S) TO NEW MESSENGER CABLE
30	INSTALL NEW ELECTRICAL SERVICE
31	MODIFY EXISTING ELECTRICAL SERVICE
32	INSTALL NEW CONTROLLER
33	INSTALL EXISTING CABLE IN NEW CABINET
34	INSTALL GENERATOR POWER INLET BOX
35	INSTALL LOCAL GIGABIT ETHERNET SWITCH
36	INSTALL UNIFIED CABLE
37	INSTALL POLE MOUNTED EQUIPMENT CABINET
38	INSTALL UNI-DIRECTIONAL YAGI ANTENNA
39	INSTALL OMNI-DIRECTIONAL ANTENNA
40	INSTALL RADIO TRANSCEIVER
41	INSTALL SYSTEM LOOP
42	INSTALL SYSTEM LOOP AMPLIFIER
43	INSTALL SYSTEM LOOP LEAD-IN CABLE
44	INSTALL LOCAL LOOP AMPLIFIER
45	INSTALL CITY WI-FI ANTENNA
46	INSTALL HUB 10-GIGABIT ETHERNET SWITCH
47	INSTALL CODEC
48	BOND MESSENGER CABLE TO POLE GROUND
49	INSTALL BASE ADAPTER AND MODIFY EXISTING CABINET FOUNDATION
50	INSTALL ANTENNA CABLE
51	RECONNECT RAILROAD PREEMPTION EQUIPMENT
52	RECONNECT EMERGENCY VEHICLE PREEMPTION EQUIPMENT
53	INSTALL DSL ETHERNET SWITCH
54	INSTALL ETHERNET CABLE
55	INSTALL TERMINAL SERVER
56	INSTALL MICROWAVE VEHICLE DETECTOR
57	INSTALL MICROWAVE VEHICLE DETECTOR CONTROLLER UNIT
58	INSTALL WIRELESS ACCESS POINT POWER CABLE

NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

PLANS PREPARED IN THE OFFICE OF:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh N.C. 27636-3068
(919) 677-2000

750 Greenfield Pkwy., Garner, NC 27529

SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE
CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE 2/22/08 DATE

CADD Filename: ...\Sht0368.dgn

2/20/2008
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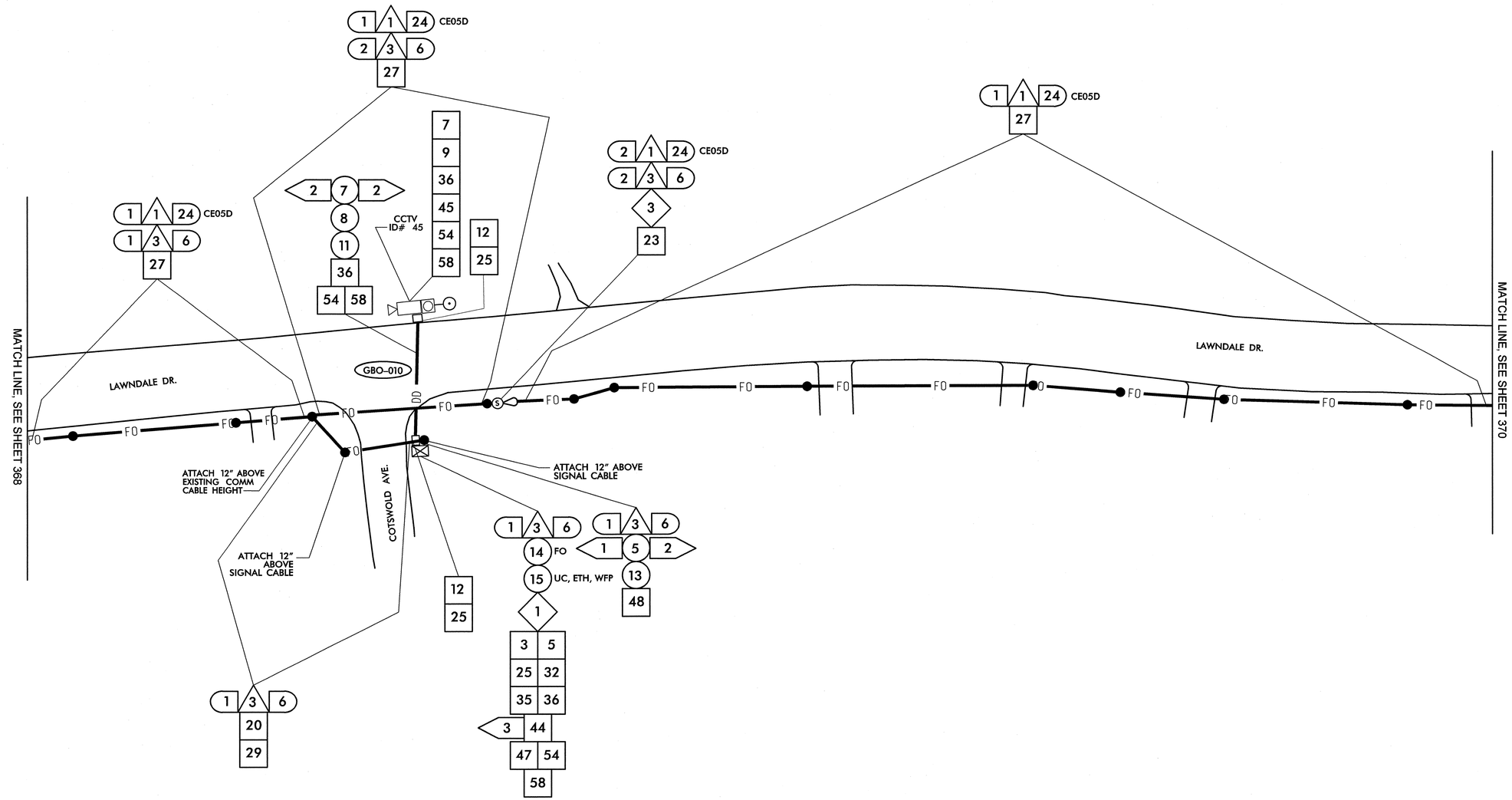
PROJECT REFERENCE NO.	SHEET NO.
U-4711	369



1	INSTALL SMFO CABLE
2	INSTALL PLENUM RATED FIBER OPTIC CABLE
3	INSTALL FIBER OPTIC DROP CABLE
4	INSTALL TRACER WIRE
5	REUSE NCDOT SMFO CABLE
6	REUSE GDOT SMFO CABLE
1	TRENCH
2	INSTALL PVC CONDUIT
3	INSTALL RIGID, GALVANIZED STEEL CONDUIT
4	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
5	INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC HEAT SHRINK TUBING
6	INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
7	INSTALL POLYETHYLENE CONDUIT
8	DIRECTIONAL DRILL CONDUIT
9	BORE AND JACK CONDUIT
10	INSTALL CABLE(S) IN EXISTING CONDUIT
11	INSTALL CABLE(S) IN NEW CONDUIT
12	INSTALL CABLE(S) IN EXISTING RISER
13	INSTALL CABLE(S) IN NEW RISER
14	INSTALL NEW CONDUIT OR RISER INTO EXISTING CONDUIT ENTRANCE
15	INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
16	INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
17	INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
18	INSTALL NEW RISER INTO POLE MOUNTED CABINET
19	REPLACE EXISTING WEATHERHEAD WITH HEAT SHRINK TUBING
1	INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
2	INSTALL UNDERGROUND SPLICE ENCLOSURE
3	INSTALL AERIAL SPLICE ENCLOSURE
4	INSTALL POLE MOUNTED SPLICE CABINET
5	INSTALL BASE MOUNTED SPLICE CABINET
6	REMOVE EXISTING SPLICE CABINET
7	INSTALL TERMINAL SPLICE BOX
8	MODIFY EXISTING SPLICE ENCLOSURE
1	INSTALL CABINET FOUNDATION
2	REMOVE EXISTING CABINET FOUNDATION, CABINET AND CONTROLLER
3	MODIFY EXISTING CABINET FOUNDATION
4	INSTALL NEW 333 COMMUNICATION CABINET
5	INSTALL NEW 332 BASE MOUNTED CABINET
6	INSTALL NEW 336S CABINET
7	INSTALL CCTV CAMERA ASSEMBLY
8	INSTALL CCTV CAMERA WOOD POLE
9	INSTALL CCTV METAL POLE AND FOUNDATION
10	INSTALL OVERSIZED HEAVY DUTY JUNCTION BOX
11	INSTALL SPECIAL OVERSIZED JUNCTION BOX
12	INSTALL OVERSIZED JUNCTION BOX
13	INSTALL STANDARD JUNCTION BOX
14	REMOVE EXISTING JUNCTION BOX
15	INSTALL WOOD POLE
16	REMOVE EXISTING WOOD POLE
17	INSTALL AERIAL GUY ASSEMBLY
18	INSTALL STANDARD GUY ASSEMBLY
19	INSTALL SIDEWALK GUY ASSEMBLY
20	INSTALL MESSENGER CABLE
21	REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
22	REMOVE EXISTING COMMUNICATIONS CABLE
23	INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
24	INSTALL DELINEATOR MARKER
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NOTE:
GDOT ATTACH 40" BELOW PWR ON FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

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SCALE 0 50

CITY OF GREENSBORO COMPUTERIZED SIGNAL SYSTEM UPGRADE

CABLE ROUTING SHEET

DIVISION 7 GUILFORD COUNTY

PLAN DATE: FEBRUARY, 2008 REVIEWED BY: K.W. SMITH

PREPARED BY: K.D. VANPATTEN REVIEWED BY: M.W. DUNZO

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 023562 ENGINEER MARK DUNZO

SIGNATURE DATE 2/22/08

CADD Filename: ...\Sht0369.dgn

2/20/2008
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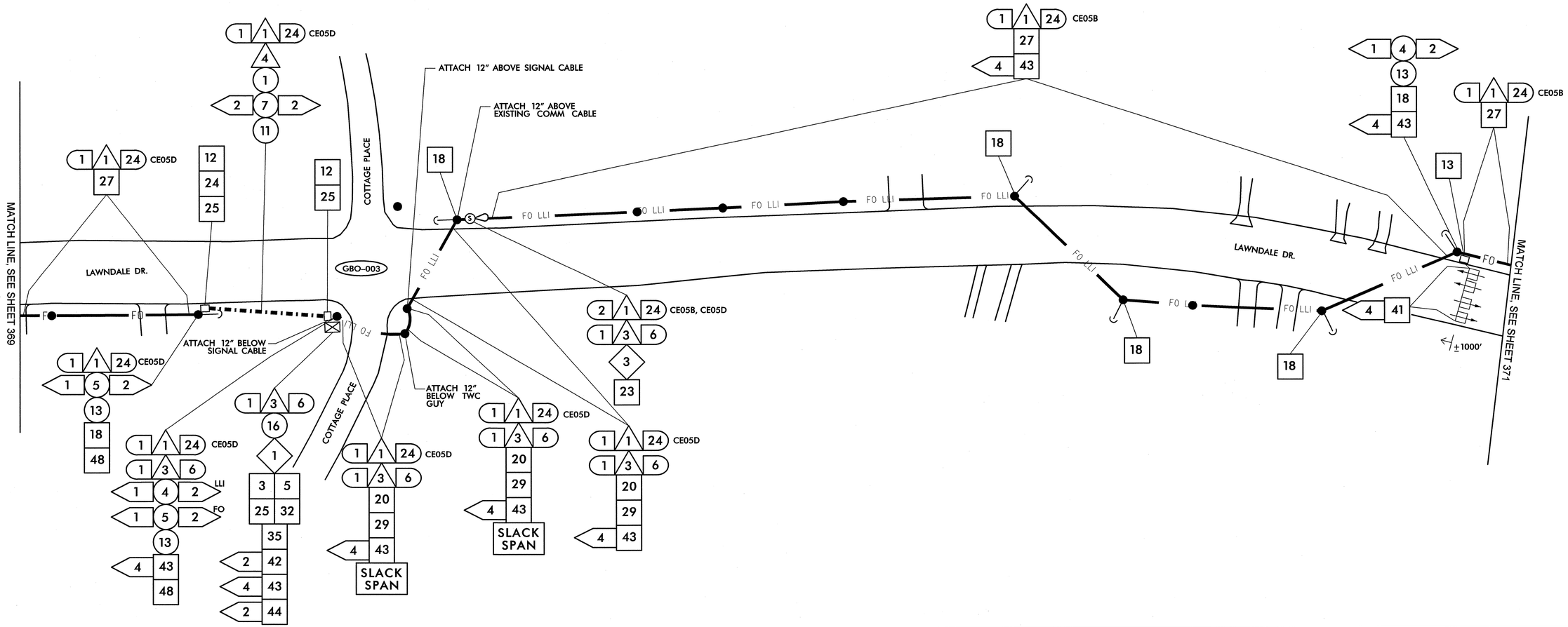
PROJECT REFERENCE NO.	SHEET NO.
U-4711	370



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DIVISION 7 GUILFORD COUNTY

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SEAL 023562 NORTH CAROLINA PROFESSIONAL ENGINEER MARK DUNZO

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